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DERMATOLOGY AS A SPECIALTY, AND ITS RELATION TO INTERNAL MEDICINE*

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It seems appropriate that my address, as chairman of the Section on Dermatology of the American Medical Association, should be devoted not so much to the refinements of a specialty as to the general and fundamental relations of this specialty to medicine as a whole.

One by one the individual branches of medicine have been cut off the main trunk and cultivated exclusively by specialists. This process of the division of labor was inevitable and indispensable for advance through concentration of effort. But, as in all restricted effort, the very concentration tended to narrowness of observation and loss of perspective that impaired the broadest utilization of the observations made, both for the specialist and for the generalist. The specialist became too much a specialist and lost a capacity for the correlation of the minutiæ of his observations into generalizations. The generalist—and I mean by the generalist the scientific internist as well as the general practitioner—on the other hand, was separated more and more in his understanding and interest by the complexity of the specialty. He not only could not follow the complications and intricacies of the specialties but he had little interest in them, in so far as they remained separated by failure to correlate them with their general causes.

These considerations apply with exceptional force to the specialty of dermatology, which alone concerns us at present. Dermatology has become so complicated with fine distinctions of terminology and classification that its underlying principles and fundamental relations have been much obscured by the haze of details that has enveloped it.

Is it not proper, therefore, that we as *dermatologists* should make some effort to bridge the ever-widening *separation between our specialty and the field of internal medicine?* Should we not attempt to interest ourselves more in the newer generalizations of medicine and to bring the internists into closer touch with ourselves and our work? I believe that this is becoming essential to progress. The period of infancy in our specialty is passing. This period has been devoted to *the collection* of simple observations and facts. This collection cannot be claimed to be completed and must be still further extended. But already the unrelated facts observed and brought together in the domain of dermatology are becoming cumbersome and an impediment to progress. Correlation of these facts must be attempted if confusion is to be avoided. General causes must be sought and discovered. We as specialists alone cannot undertake this difficult task. We must unite with the internists and together work in the clinic and the laboratory in the investigation of broad relations and causes.

With the exception of parasitic and local inflammatory affections of the skin and with the further possible exception of certain skin affections of wholly unknown nature, it may be said that skin diseases are for the most part simply the superficial local manifestations or complications of general or special morbid states involving the tissues of the body either generally or specially in certain organs or groups of organs. In short, most skin diseases are nothing but symptoms or complications of constitutional or special morbid states. This statement may appear at first sight too sweeping a generalization and perhaps somewhat of a prophecy, but of its essential truth I have been convinced the more I have given consideration to it.

If I am correct in this view, then my plea for more *systematic cooperation* between the dermatologist and the generalist is clearly supported. Not only is this cooperation of study demanded for the highest ends of scientific medicine but also for the many incidental advantages to all concerned in it. What needless distress and even disaster ensue to the patient by reason of the ignorance of the general practitioner as to the interpretation of many skin lesions. We as dermatologists are constantly reminded of this fact. Can we claim that the reverse is not also *true? How do we know that it is not?* With all our little distinctions and refinements of classification of skin lesions do we know much of the internal relations and final causes of these lesions? Do we know that a skilled internist may not discover related manifestations in other parts of the body and suggest therapeutic measures of value equal to or even greater than our own? It is true that, thus far, *the internist* has added little or nothing to such correlation, because he has failed to realize its value.

But far more important is the determination of new *facts, new relations, new conceptions, the simplification of complexity.* All these will come in time. We can hasten their coming by stimulating the interest of our fellow internists and working with them.

As dermatologists we should not be summoned to the *hospital clinics* occasionally and separately to inspect or diagnose an unusual skin affection; we should consult with the internist, give and take, and together learn. Cooperation of study between ourselves and all the departments of scientific research in our hospitals and laboratories should be instituted and systematically prosecuted. How else can dermatology be correlated with scientific medicine?

It is surprising to note the crude notions still prevalent among the laity and even physicians regarding skin affections. How much harm and needless suffering result from these false views! How many innocent persons are cruelly subjected to unjust suspicions of moral guilt, due to ignorance of the real nature of their skin affections! How frequently do we still encounter such old superstitions as the effect of "catching cold" and of psychic influences in producing all manner of skin diseases!

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* Chairman's address before the Section on Dermatology of the American Medical Association at Its Sixty-first Annual Session, held in St. Louis, June, 1910.

The idea that skin lesions are manifestations of "impurities of the blood" and require "medicine for the blood" is too deep-rooted in the ignorance and prejudice derived from past teaching to be readily overcome. A natural variation of this view is seen in the notion very commonly held that some skin diseases should not be treated locally, lest they be "driven in." Other variations of the blood diathesis theory still widely held are the views that many skin affections are due to a scorbutic taint or to scrofula.

These are specimens of the theories formerly held by the medical profession and still deeply ingrained in the prejudices of the laity and in the ignorance of many practitioners. Other crude notions of a blood diathesis still persist within the profession, modified, however, to conform with newer conceptions of pathology but still running in the same old grooves. Thus the uric acid diathesis theory of skin affections is nothing but a modern setting of the older views. So long as nothing much was known about uric acid this theory satisfied and was dignified by a certain pseudoscientific assumption of exactness. This idea was handed on to the laity and is to-day one of the chief errors that we have to combat. With the passing of uric acid as a cause of every conceivable ill to which flesh and skin are heir, we shall presently, probably have other variations of the old dogma to contend with. That there may be an element of truth underlying these crude notions we may readily believe, for metabolism lies at the foundation of all vital processes and errors of metabolism may be presumed to account for many of the variations from normal in the different tissues and functions of the body. But in making this admission let us not again be led into the same old error of assuming to know the exact nature of such metabolic errors and of assigning to mere hypotheses the dignity of authority. This has been the trouble in the past and warns us of danger in the future. Let us keep in check our enthusiasm for new notions until we can see clearly. Let us contribute our part to the active research now being vigorously pursued in the study of faulty metabolism, but beware of crude generalizations based on incomplete data. Thus only shall we avoid falling victims to the temptation of easy conclusions based on shallow thinking.

But while striving for ideals in the scientific correlation of dermatology with internal medicine, the utilization of the practical knowledge already possessed should not be neglected. How much of practical importance can be contributed to-day by trained dermatologists to general practitioners? How slight is the understanding by most practitioners of the many lesions of the skin which they see! How often do these lesions give important clews to internal affections? The general practitioner must be far better trained in dermatology in order to comprehend and justly to estimate the relations of dermatology to general medicine. A much closer professional relation should exist between the dermatologist and the general practitioner for the good of both and of the patient.

In the short space of this address I cannot consider at length many of the numerous points of practical contact between dermatology and internal medicine, but I may refer briefly to some of them, chiefly for the sake of illustrating the shortcomings in practice resulting from a failure of intimate cooperation between dermatologists and generalists.

DISEASES ESPECIALLY CALLING FOR COOPERATION BETWEEN DERMATOLOGISTS AND INTERNISTS

Exudative Erythemas.—We have been accustomed to regard as belonging to the specialty of dermatology the several varieties of exudative skin lesions of the erythema group. Only within recent years has this whole complex group been correlated with important manifestations in the internal organs. An appreciation of this correlation is as essential to the dermatologist as to the internist and surgeon. Would it not be folly to treat the skin lesion and to overlook an acute nephritis, bronchitis, pericarditis, arthritis or abdominal complication? Are we, as dermatologists, accustomed to refer such cases for general examination? On the other hand, how rarely do the internist and the surgeon take account of the clew to diagnosis afforded by these lesions in cases presenting acute abdominal symptoms! Twice in a single week I have seen hospital patients barely saved from an unnecessary laparotomy by the timely intervention of physicians who fortunately did possess enough of broad training to embrace a knowledge of the correlation of such skin manifestations with acute abdominal symptoms and to advise against operation. Many instances of laparotomies actually performed for supposed appendicitis, intussusception, twists of the intestines, tumors and other abdominal conditions have been reported—and doubtless many more have not been reported—which could have been avoided by a knowledge of the correlation of such abdominal symptoms with exudative skin lesions of the erythema group. How long will this kind of one-sided specialism continue to the detriment of scientific practice?

Syphilis.—Of all diseases demanding the attention of dermatologists, specialists and generalists, syphilis is one of the most important, involving in its consequences not merely the health and life of individuals but the happiness of families and the welfare of society. This disease, which affects every tissue of the body and remains transmissible for years and perhaps through generations, first manifests itself by lesions in the skin and mucous membranes, for which the dermatologist is often first consulted. Later, the general practitioner is required to treat the disease for the involvement of internal organs, the neurologist for the late consequences on the nervous system, the surgeon for destructive changes in the bones and joints, and the other specialists in turn for the involvement of various organs. How important it is that this disease be understood in its broadest relations, its various manifestations mastered by all practitioners of whatever limitation in their field of work, and its proper treatment thoroughly comprehended! How far are we from this accomplishment! Dermatologists, by their unusual opportunities for observation of the skin manifestations of this disease, have acquired a skill in its diagnosis that is equalled by no other practitioner. Yet how frequently is our cooperation sought by our colleagues in their doubtful cases? In no other common disease is the penalty exacted for incorrect diagnosis and faulty treatment so severe.

Better education regarding the prevalence, manifestations, diagnosis and treatment of this disease is imperatively demanded. The general ignorance of the medical profession regarding syphilis is deplorable and a reproach that we should feel. A systematic campaign of education in syphilis might well be undertaken by the official organ of our association. To this end I would recommend that our Section take appropriate action.

Leprosy.—This is a disease fortunately rare in this country and for this very reason one that is usually mistaken for other affections, notably for syphilis. Most of its manifestations, however, are found in the skin or external portions of the body, rendering its diagnosis easy for those skilled in lesions of the skin. The training of the dermatologist especially equips him for the differentiation of this disease from those conditions with which it might readily be confused.

Pellagra.—This disease, which is now attracting so much attention and which has until recently been entirely overlooked in this country, would be readily recognized by any competent dermatologist by reason of the characteristic pigmentation of the skin.

Diabetes.—To a dermatologist such symptoms as slight, recurring inflammation of the prepuce, itching of the skin, ulceration at the base of a nail and furunculosis would at least arouse a suspicion of diabetes; the occurrence of certain skin lesions, xanthoma diabeticorum, would be almost pathognomonic. In diabetes early diagnosis and treatment are certainly important.

Punctate Telangiectases.—These little lesions, while often of no moment, are not infrequently observed in connection with cardiac and hepatic disease and should never be passed over as of no significance without examination of the internal organs.

Eczema and Psoriasis.—While these common affections cannot usually be definitely associated with internal disturbances, not infrequently they can be, and their occurrence should always suggest a careful general examination. Their correct treatment very frequently demands the treatment of the underlying or associated conditions.

Parasitic Skin Diseases.—These wide-spread and annoying diseases of the skin are usually treated by the general practitioner, who has very frequently failed to do his full duty toward them, by reason of incorrect diagnosis, careless methods of treatment and still more careless methods of enforcing personal and public hygiene and quarantine. Errors in any of these points may lead to epidemics that could have been prevented by the institution of proper measures at the outset. These diseases should be among those required by law to be reported and controlled by the public health authorities through the enforcement of suitable quarantine.

Eruptive Fevers.—No class of diseases is of such importance for the public welfare as these. Once started they become epidemic and a veritable scourge to the community. Their correct and early diagnosis is, therefore, vital to the protection of the public health. While the diagnosis is often well made by the general practitioner, how frequently is this not the case? Lack of sufficient instruction on these diseases in the medical schools leaves the young graduate poorly equipped to diagnose them. How many medical students ever saw a case of smallpox? What wonder is it, therefore, that in actual practice smallpox is rarely diagnosed until it has already become epidemic and disseminated far and wide?

Both smallpox and scarlet fever are diseases that very frequently appear in individual cases in abortive or anomalous forms, calculated to deceive all but the elect. The general practitioner must be on guard against making fatal errors of diagnosis in such cases and would receive a genuine service from the counsel of an experienced dermatologist when in doubt in his diagnosis.

Drug Eruptions.—The recognition of drug eruptions is important both for their relief and especially for their correct differentiation from more serious conditions with which they are likely to be confused. Imperfect knowledge regarding these common conditions has often led to the gravest diagnostic and therapeutic errors. For example, the coal-tar preparations so widely used often produce eruptions of most varied form and extent in the skin and mucous membranes. Such eruptions have frequently been mistaken for syphilis, lichen ruber, pemphigus, scarlet fever, measles, etc., and in consequence the patient has been subjected to the most unnecessary treatment and restrictions. The correct diagnosis in many such instances has been suggested only by the subsequent repeated occurrence of similar outbreaks of the skin whenever the particular drug has been taken. Every physician should be familiar with the possible cutaneous effects of the drugs which he prescribes, and this knowledge can be acquired only by a large experience and exact observation. These eruptions are as a rule well known to dermatologists and should offer little difficulty of diagnosis.

The relationship of the functions of the skin to those of internal organs are beginning to be fairly well comprehended, although many of the most important bearings are still poorly understood. The connection of cutaneous diseases with inflammation of the mucous membranes in some cases is of unusual interest. It is not uncommon for a patient to seek out a physician, bringing the information, during an acute attack of his eczema, that an asthma from which he has suffered shows amelioration, and *vice versa*.

There is another class of cases of skin involvement in which the underlying causes are vasomotor in origin, without recognizable heart lesions, although, in certain instances, the symptom of tachycardia may be present. These circulatory disturbances may be accompanied by a great variety of skin manifestations whose relations to them are as yet but poorly understood.

This list could be extended almost indefinitely, but my purpose will have been effected if the few illustrative conditions cited shall have helped a little to indicate some of the points of contact between dermatology and general medicine and to encourage a closer cooperation of study and effort among all. Our fields of work must remain more or less differentiated, yet should be united more and more by bonds of allegiance and common purpose in the pursuit of ideals in the science and art of medicine.

In the furtherance of these ideals more intimate relations should be cultivated among the special Sections in the meetings of the American Medical Association, so that each Section may have a greater educative influence on the whole body. With this end in view the program of our Section ought to be arranged to include subjects of general interest, that will instruct all. It is hoped that the slight attempt in that direction this year may be an inspiration for greater future endeavor.

It is gratifying to me to be the first to welcome this Section under its new designation of the Section on Dermatology. I am sensible of the great honor you have conferred in choosing me as your chairman, and desire to express to you my dutiful thanks and to assure you of my liveliest appreciation. I also wish to acknowledge my indebtedness to our Secretary for his proverbial zeal and energy in connection with the interests of the Section.

471 Delaware Avenue.

PEMPHIGUS FOLIACEUS

WITH REPORT OF A CASE*

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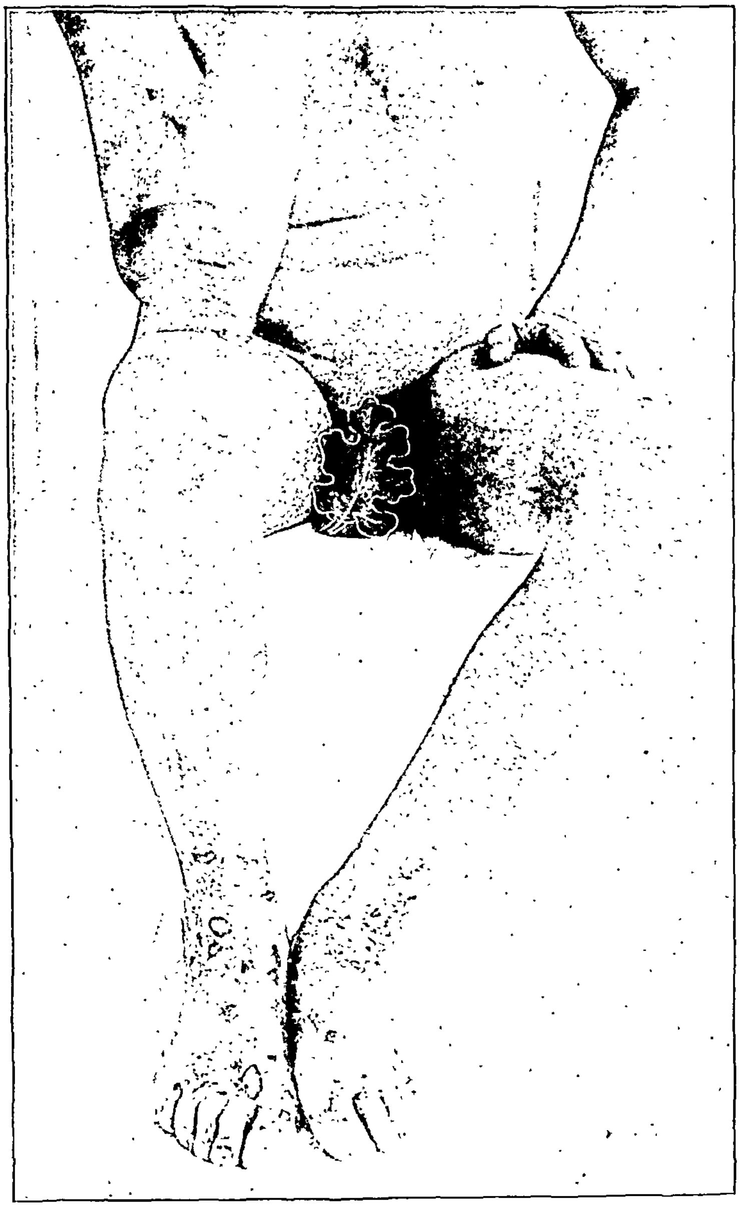
Pemphigus is a skin disease characterized by the eruption of blebs. These are, however, not characteristic in themselves but only in connection with other important features. The whole subject is not sufficiently cleared up yet and there is no unanimity as to what to include and what to exclude. Dermatitis herpetiformis is still considered pemphigus in Germany. Various skin diseases are denominated pemphigus, such as pemphigus neonatorum, which most probably is a bullous form of impetigo contagiosa, pemphigus syphiliticus, a manifestation of syphilis, pemphigus neuroticus and hystericus, sequels of functional and organic nerve disorders. A strict avoidance of these names would clear the ground rapidly. Bullæ are seen in bullous dermatitis, bullous erythema, and bullous urticaria, but nobody thinks of including these in pemphigus. Whether there is an acute pemphigus is a matter of controversy and denied by many.



Pemphigus foliaceus.

What then does constitute real pemphigus? In the first place the characteristic feature is the bleb, which must be elementary, that is must begin as such and not be due to secondary changes of other skin lesions. It must be the essential and not an incidental or unusual feature of the disease. It must not be a local condition, but the manifestation of a grave internal disorder. Its course is chronic, with exacerbations and remissions, leading to a deep systemic depression and frequently to death. With such restrictions it may easily be seen that many cases of pemphigus reported must be excluded from consideration under this head and that pemphigus as an idiopathic disease (called so in the absence of a better knowledge of its nature) is a rare disease.

Of the etiology of pemphigus nothing is known. Against a microbic theory speaks the fact that the contents of fresh bullæ are sterile; that there is no clinical evidence of its contagiousness; that not more than one case in one family has been reported. A toxic process was considered from the analogy of the action of certain poisons and drugs which, when introduced into the system, were followed by the eruption of blebs. The occasional increased percentage of eosinophils was used for this argument. Many attribute pemphigus to a neuropathic cause, arguing that some functional and organic nerve disturbances manifest themselves by the appearance of blebs. Numerous examinations of peripheral and central nerve tissues in autopsies have shown no pathological changes in them. Age, sex, race and climate have no predisposing influence. Riecke says very tersely, that our total ignorance of the etiology of pemphigus serves as a valuable diagnostic point in its differentiation from other bullous diseases.

Of the three varieties, pemphigus vulgaris, foliaceus and vegetans, the last two are the rarest. Pemphigus foliaceus, of which I wish to report a case, is clinically so different from pemphigus vulgaris that it might be considered a separate disease, were it not for the fact that they sometimes lapse into each other. Pemphigus foliaceus occurs only once in 5,000 skin diseases and Croker has only seen six cases in a life-time of extensive dermatologic practice. Pemphigus foliaceus is a chronic disease which breaks out in successive crops, until it finally involves the whole surface. The cutaneous lesions are flaccid bullæ containing only sufficient fluid to bag their dependent parts. The contents are cloudy almost from the first and soon become purulent. The blebs rupture quickly and the epidermis exfoliates in shreds leaving the corium denuded and moist. The raw patches are covered with a foul-smelling sero-pus and have no tendency to dry up and to be covered with a healthy epidermis. The exudation undermines the neighboring skin, giving it a shriveled appearance, and looks, as Cazenave says, like a flaky pie-crust. When the disease is fully developed, the body is covered with raw areas of various size, shreds of epidermis and loosened skin.

The mucous membranes may take part in the process, a complication considered especially unfavorable. The general health may not suffer at first, but the patient becomes ultimately cachectic or dies from an intercurrent disease. The end is almost always fatal, though sometimes not until after a few years.

The pathology of pemphigus has been thoroughly studied. The location of the bleb may be interepithelial or between the epidermis and the corium. The epithelial cells are edematous and swollen. The interspinous spaces are occluded. The corium is the seat of a mild probably secondary, inflammation. The papillary blood-vessels are dilated and surrounded by small mononuclear leucocytes. An excess of eosinophils is found occasionally in the blood and the serum and was for a time considered distinctive, but no special significance can be attributed to it. In autopsies of bodies of persons dead from pemphigus, only coincidental changes were found, but nothing directly pertaining to the disease.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

REPORT OF CASE

On March 15, this year, I first saw F. A. S., a farmer, 36 years old. Father died at the age of 60 of pneumonia, mother at 59 of typhoid. Seven brothers and one sister are living and in good health. There is no knowledge of a similar disease in the family. The patient has always been in good health outside of the usual children's diseases. His present trouble began in September, 1909, as small clear vesicles in the mouth, which increased in size and spread to the throat. Two weeks later they appeared in different places over the entire body. At first they remained unbroken and dried up, leaving behind considerable pigmentation which can still be seen. The disease was at that time probably pemphigus vulgaris. Lately the character of the bullæ has changed; they do not last long enough to become filled and tense, are only partially filled and flaccid and rupture rapidly. Large raw patches are produced in this way, partly covered with a sticky serum, partly with shreds of the exfoliated epidermis. The whole body is affected with the exception of the face, especially the lower third of the legs and the buttocks. Between the excoriated areas the skin shows plainly the separation of the horny layer from the subjacent layers by the above-mentioned shriveled finely wrinkled appearance. An exceptional feature, which I find observed only by Weidenfeld[1] was also seen in this patient. A slight rubbing of the skin or a mild trauma, like the taking of a drop of blood from the ear-lobe, was invariably followed by a large bleb. This is probably not so much due to an unstable condition of the vasomotor system of the skin, as in epidermolysis bullosa, as rather to the unstable adhesion of the individual layers of the epidermis. The mucous membranes were affected from the first. The tongue, gums, cheeks and the pharynx are involved presenting sharply outlined raw patches, partly bleeding, partly covered with a loosened grayish membrane. The eruption was at first accompanied by itching which has subsided lately and only general discomfort is complained of. Chewing and swallowing is at times extremely painful and almost impossible. The general health has not suffered much up to the present time, except for an occasional rise of the temperature and an anemic appearance. The patient has, however, lost 70 pounds in his weight since the beginning of his trouble. The urine is acid, specific gravity 1011; no albumin or sugar is present. Blood examination is as follows: Red cells, 4,232,000; white cells, 6,600; hemoglobin, 82 per cent. Differential count: Small mononuclears 40, 20 per cent.; large mononuclears, none; transitional forms 28, 14 per cent.; polymorphonuclears 128, 64 per cent.; eosinophils 4, 2 per cent. As can be seen from this, there is no considerable change from the normal except a decrease of hemoglobin. The percentage of eosinophils is not increased.

400 Bee Building.

ABSTRACT OF DISCUSSION

Dr. M. McMahon, Palmyra, Ill.: I have under observation a case of pemphigus, in an anemic woman, 55 years old, who has worked hard all her life and is broken down in health. The first lesions appeared about six months ago on the buccal mucous membrane, and finally covered the entire buccal mucous membrane, including the gums. After a time, the patient's condition improved to such an extent that she could take food, which she was unable to do at first. Early in March, the first external manifestations of the disease appeared on the face. Other regions of the body then became involved, many blebs forming and breaking down, leaving large areas of denuded skin. Then for a time the patient would improve, only to go through the entire process again with a fresh crop of lesions. Another physician saw the case with me, and confirmed the diagnosis. At the present time, the external manifestations of the disease have somewhat improved, but all the mucous membranes, including the throat, stomach and intestines are now undergoing the same process. The urine, which has been repeatedly examined, contains neither sugar nor albumin, but does contain a large amount of indican. The patient has had all sorts of treatment, arsenic, salicin and quinin being the principal internal remedies, although she had an idiosyncrasy against the latter drug. She appears to be improving at present, but on account of the condition of the mucous membranes, she cannot take a great amount of nourishment. This is the only case that I have seen in the section of Illinois in which I live. I recall a case in the City Hospital about twenty-eight years ago in which the patient was kept in a continuous bath for about six months and finally died.

Dr. H. H. Hazen, Washington, D. C.: I reported a case of pemphigus foliaceus in the *Journal of Cutaneous Diseases*, March, 1910. The patient was a man, 30 years old, who first came under my observation in 1907, and who was referred to me for study by Dr. Thomas C. Gilchrist of the Johns Hopkins Hospital. In going over the metabolism of this case, we found the ammonia output tremendously high. Normally, the ammonia is but 3.5 per cent. to 5 per cent. of the total urinary nitrogen, but in our case the ammonia constituted 15 per cent. of the total urinary nitrogen. This spoke in favor of intestinal infection. The patient was treated with autogenous vaccines in doses ranging from 10,000,000 to 100,000,000. After the first injection he became ill, with marked malaise and headache, pain in the back and limbs, redness and swelling at the site of the inoculation, and an outbreak of a fresh group of vesicles. The reaction was similar to the typical tuberculin reaction. As each injection caused more blisters and malaise, the treatment was stopped. In view of Crowe's work, large doses of hexamethylenamin were given, but without effect. The patient was placed in a continuous bath during the day; at night he slept in bed. After a few days it was noted that the scales had decreased in number, but there was a large number of fresh vesicles which were moist and flaccid. The patient's general condition, however, had improved. He did better under this treatment than any other.

I think that there is need of more thorough investigation of the entire group of pemphigoid eruptions along the lines of modern research. It is not sufficient merely to employ observation. Studies should be made on the following subjects: (1) general metabolism; (2) toxicity of the perspiration; (3) bacteriologic examinations of the blood, bullæ, urine and feces; (4) agglutinating power of the blood.

Dr. E. S. Lain, Oklahoma City: Has any one experimented with the x-ray in these cases? I have had the opportunity of making such a test in two cases during the past twelve months, and under this treatment it has seemed to me that the exacerbations terminate much more rapidly than by any other method that I have tried. In my first case, the lesions ceased to form after the eleventh exposure to the rays. Since then the patient has not been directly under my care, but the lesions have been so few in number that her attending physician did not think it necessary to bring her to the hospital for further treatment. Of course, I do not regard the patient as cured.

In another case, which I saw a month later, the blebs ceased forming after eight exposures to the x-rays. Four weeks later there was a recurrence, but thus far the patient has failed to return to the hospital for further treatment. I have a photograph of this patient which I will show to-morrow at the photographic exhibit.

Dr. A. Schalek, Omaha, Neb.: Dr. Hazen's remark that cases of pemphigus foliaceus have not been studied in a sufficiently thorough manner is not quite justified. The disease is so rare and interesting, especially on account of its serious consequences, that any one who ever had a case generally took the time to study it. In spite of that fact, we do not know much more about the etiology of the disease than we did before. I have watched my cases carefully, and I have had blood examinations and cultures made.

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[1] Cited by E. Spiegler: Mraczek's Handbuch der Hautkrankheiten, ii, 2.

In my paper, I did not say much about the treatment of pemphigus foliaceus. So far as I know, there is no satisfactory treatment; the patients all die, some sooner, some later. I put my patients in a warm bath for several hours every day, and then have them wrapped in moistened sheets.

EXPERIENCES WITH THE DUODENAL CONTENTS*

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The examinations of stomach contents, which were inaugurated forty years ago by Kussmaul and later by Ewald, Leube, Boas, Riegel and others, have now been *generally introduced into the clinical investigation* of digestive disturbances.

The rôle which the stomach and its secretion play in the digestive process has formerly been estimated a great deal higher than at present. At first it was determined that human beings could exist very comfortably without any gastric juice at all (as proved by the numerous cases of achylia gastrica); then it was proven by the surgeons (Schlatter) that the stomach could be excised *in toto* without fatal consequences.

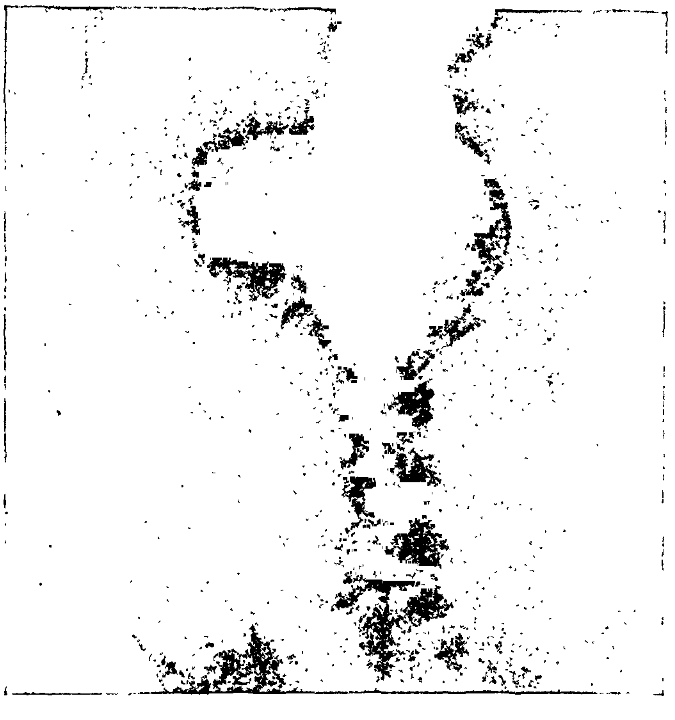

Fig. 1.—Patient T., with the duodenal pump in the small intestine previous to the ingestion of bismuth.

By physiologists as well as by clinicians the principal work of the stomach is now considered to be rather a preparatory process for the real digestion in the small intestine. The principal juices for the latter are contained in the duodenum. The potent pancreatic juice, bile and the duodenal secretion are here poured out. juices have to fulfill two purposes, first, to tritive materials ready for absorption and tralize the strongly acid gastric contents; al wall cannot, as a rule, stand free acids time.

It is, therefore, self-evident that any information as to the condition of the duodenal secretions would be of vast importance. Until recently this was considered hardly possible. Since I introduced the duodenal pump [1] however, the duodenal contents can readily be obtained, and I have therefore, made some investigations on its properties in a number of cases.

The method consisted generally in having patient drink in the fasting condition tea with sugar, without milk and then about half to three-quarters of an hour later introducing the duodenal pump, the patient meanwhile drinking a half tumblerful of water. Later, after one-half to one hour, the patient drinks a glassful of seltzer or hot water or tea and the examination then takes place. Whereas formerly I obtained the duodenal contents through continuous aspiration I now proceed differently, making suction first by means of a syringe and as soon as the contents are obtained removing the piston of the syringe and keeping the barrel of the syringe low. The fluid is thus siphoned out in a slow stream.

I have laid down the results of these examinations in the accompanying table.

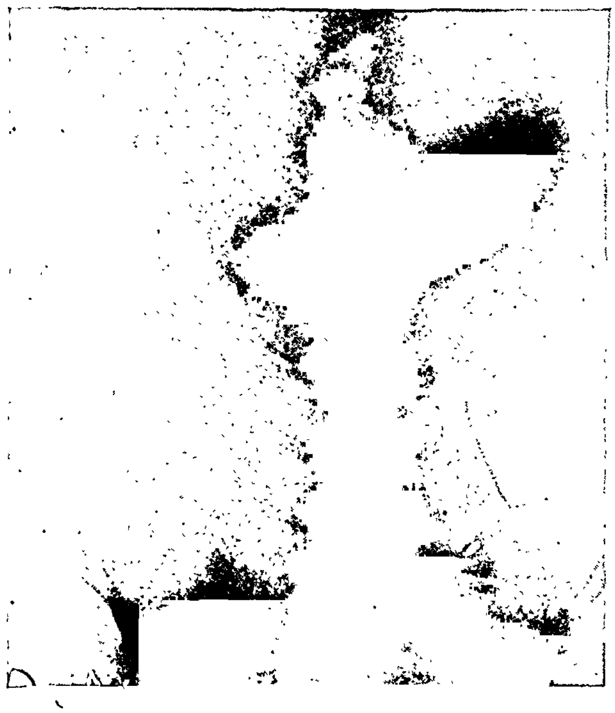

Fig. 2.—Patient T., with the duodenal pump in the small intestine, after the ingestion of bismuth. The contours of the stomach are visible. The tube of the duodenal pump is seen outside of the stomach in the duodenum and small intestine.

COMMENT ON TABLE

If we analyze all the cases of the table we first meet six cases of nervous dyspepsia (1-6) in which trypsin was absent once in the duodenal juice.

In case 8 (chronic gastritis and nervous vomiting) the duodenal contents were thick and turbid, which might point to a duodenal catarrh. In Case 11 (T), with atony of the stomach, steapsin was absent in three examinations and once in examining the duodenal contents in the fasting and dry state (11 E.) all the ferments were found to be absent. In the same patient (11 F.) thick mucus was found once in the duodenal contents after an attack of ptomain poisoning. I append the *x*-ray pictures taken of this patient with the duodenal pump *in situ* (Fig. 1-2).

Practice of Medicine of the American ty-first Annual Session, held at St.

[1] Einhorn, Max: A Practical Method of Obtaining the Duodenal Contents in Man, Med. Rec., Jan. 15, 1910.

TABLE OF EXAMINATIONS OF DUODENAL CONTENTS MADE FROM NOV. 1, 1909 TO APRIL 17, 1910

No.	Name.	Diagnosis.	Date of Examination.	In What Condition Examination Is Made.	Amount in c.c.	Appearance.	Reaction.	Specific Gravity.	Steapsin.	Amylopsin.	Trypsin.	Remarks.
1a.	Mrs. K.	Nervous Regurgitation.	11- 6-09	After Milk.	1.5	Golden Yellow.	Alkaline.	....	..	..	..	
1b.	Mrs. K.	Nervous Regurgitation.	11-10-09	After Milk.	..	Yellowish.	Alkaline.	....	+	..	+	
1c.	Mrs. K.	Nervous Regurgitation.	1-30-10	After Tea and Sugar.	8	Golden Yellow.	Alkaline.	....	+	+	+	Egg albumin, one-half present.
2	Mrs. M. S	Enteroptosis	11- 7-09	After Milk.	..	Yellowish.	Slightly Acid.	....	+	..	O	
3	S. E.	Gastralgia Nerv.	11- 2-09	After Breakfast.	..	....	Neutral.	....	..	..	..	
4	A. Z.	Dyspepsia Nerv.	3-11-09	After Tea and Sugar.	..	....	Slightly Alkaline	....	+	..	+	
5	Mrs. R. A.	Dyspepsia Nervosa.	2- 2-10	After Tea and Sugar.	30	Golden Yellow.	Alkaline.	1004	+	+	+	Egg albumin, one-third present.
6	B.	Dyspepsia Nervosa and Atony of the Stomach.	4-17-10	After Tea and Sugar.	5	Amber.	Alkaline.	....	+	+	+	Egg albumin, one-half present.
7a.	E. H. C.	Hyperchlorhydria.	11- 3 09	After Milk.	12	Yellowish.	Alkaline.	1007	+	..	Trace	Thymus nuclei have entirely disappeared. For comparison thymus is left for 22 hours in gastric filtrate of Pat. K. (*Acidity 90*). Nuclei have mostly disappeared.
7b.	E. H. C.	Hyperchlorhydria.	2-13-10	After Tea and Sugar.	10	Golden Yellow.	Alkaline.	1007	+	+	+	Egg albumin, one fourth present.
8	Miss H.	Chronic Gastritis, and Nervous Vomiting.	12-22-09	After Tea and Sugar.	15	Greenish Yellow.	Alkaline.	1010	..	..	..	Fluid is thick and turbid.
9	S. H. K.	Gast. Chron.	12-28 09	After Tea and Sugar.	20	Yellowish.	Alkaline.	....	+	+	Slight	
10	K.	Hyperchlorhydria.	1- 9-10	After Milk, Tea, Bread and Port Wine.	8	Golden Yellow.	Slightly Acid.	1005	+	+	+	Albumin, one-third present.
11a.	T.	Atony of Stomach.	12- 4-09	After Milk and Bread.	6	Golden Yellow.	Alkaline.	1001	+	+	+	
11b.	T.	Atony of Stomach.	1- 2-10	After Tea and Sugar.	6	Golden Yellow.	Alkaline.	1003	O	+	+	
11c.	T.	Atony of Stomach.	1- 5-10	After Tea and Sugar.	6	Golden Yellow.	Alkaline.	1006	+	+	+	Albumin, one-third present. *Catgut* and thymus entirely dissolved. For control catgut and thymus are left in a stomach filtrate (HCl + Acidity 56) for 24 hours. Catgut has disappeared, thymus is disintegrated. Microscopically no nuclei are seen.
11d.	T.	Atony of Stomach.	1-16-10	After Tea and Sugar.	10	Golden Yellow.	Strongly Alkaline	1007	O	+	+	Catgut disappeared after 10 hours.
11e.	T.	Atony of Stomach.	3 27-10	Fasting, Pump Swallowed without Water.	9	At First Clear. Later Turbid Yellow.	Alkaline.	....	O	O	O	
11f.	T.	Atony of Stomach.	4-10-10	After Tea and Sugar.	21	Golden Yellow; Thick Mass.	Alkaline.	1009	O	+	+	Albumin, two-thirds present. Patient had suffered a few days previous from ptomaine poisoning. At first 8 c.c. are aspirated in three-fourths hours, then secretin gr. 1 is administered subcutaneously; then 18 c.c. are obtained for the *next* 15 minutes by aspiration.
12	H.	Hyperchlorhydria.	11-23-09	After Tea and Sugar.	20	Yellow.	Alkaline.	1005	+	+	+	
13	McE.	Hyperchlorhydria.	12-11-09	After Tea and Sugar.	9	Golden Yellow.	Alkaline.	1008	+	+	+	
14	S. K.	Hyperchlorhydria and Dilatation of Stomach.	11-28-09	After Tea and Sugar.	..	Yellowish.	Acid HCl. +	....	..	..	..	The milk test showed that the fluid came from the duodenum.
15	Mrs. H. H. R.	Hyperchlorhydria; Enteritis Chronica.	4-12-09	After Tea and Sugar.	..	Yellowish.	Alkaline.	....	+	+	+	Albumin, one-third present. At first a thick mucous fluid without bile was obtained, later pure golden yellow bile.
16	Dr. Sh.	Hyperchlorhydria; Ulcer of Stomach.	2- 2-10	Fasting, Pump in Duodenum Over Night.	..	Clear, Light Amber.	Alkaline.	....	..	+	+	Albumin, one-fourth present.
17	Miss M. V.	Ulcer of Stomach.	11-22-09	After Tea and Sugar.	..	Golden Yellow.	Acid HCl. +	....	..	..	..	The milk test showed that the pump was *in the duodenum*.
18	D.	Hyperchlorhydria and Ulcer of Stomach.	3-22-10	After Tea and Sugar.	..	Watery, without Bile.	Alkaline.	....	+	+	+	Albumin, one-tenth present.
19	Dr. P.	Achylia Gastrica.	11-10-09	After Tea and Sugar.	..	Clear.	Slightly Alkaline	....	+	+	+	Albumin all disappeared in 3 hours.
20	Mrs. L.	Achylia Gastrica.	3- 7-10	After Tea and Sugar.	..	White Tenacious.	Strongly Alkaline	1002	+	+	O	
21	H. L.	Achylia Gastrica.	3- 7-10	After Tea and Sugar.	..	Yellowish.	Alkaline.	....	+	+	+	Albumin, one-fourth present.
22	T. C. A.	Achylia Gastrica.	4-18-10	After Tea and Sugar.	10	Greenish Yellow.	Alkaline.	....	+	+	O	
23	D. C.	Achylia Gastrica.	4-18-09	After Tea and Sugar.	8	Yellowish.	Alkaline.	....	+	..	+	Examined with the duodenal aspirating catheter.
24	Mrs. J. R. S.	Achylia Gastrica.	2-28-10	After Tea and Sugar.	2	Golden Yellow.	Alkaline.	....	+	+	+	Albumin, one-half present.
25	W. J. C.	Achylia Gastrica.	3-31-10	After Tea and Sugar.	8	Golden Yellow.	Alkaline.	1008	+	+	Slight	Albumin, two-thirds present.
26	Dr. S.	Enteritis Chron.; Atony of Stomach	3- 4-10	Fasting and Water	15	Golden Yellow.	Alkaline.	1003	+	+	+	Albumin, one-half present.
27	T. F. M.	Diabetes Mellitus; Euchlorhydria.	3- 6-10	Fasting and Water.	10	Yellow, Turbid,	Neutral.	....	+	O	+	Albumin, one-half present.
28	Mrs. S.	Diabetes Mellitus and Achylia Gastrica.	12-14-09	After Tea.	..	Bile Like.	Alkaline.	....	+	+	+	
29	Th.	Cholelithiasis and Achylia Gastrica.	1- 3-10	After Tea and Sugar.	10	Yellowish, Turbid.	Alkaline.	1010	+	+	+	Albumin, one-third present.
30	D.	Icterus Chronic et Tumor Hepatic.	12-19 09	After Tea and Crackers.	10	Watery.	Alkaline.	1006	+	+	+	No bile. In stomach contents HCl. was present.
31	Mrs. F.	Chronic Jaundice.	1-19-10	After Breakfast.	15	Watery.	Alkaline.	....	+	+	+	No bile. Albumin, one-half present.

(Continued on next page)

TABLE OF EXAMINATIONS OF DUODENAL CONTENTS—Continued

No.	Name.	Diagnosis.	Date of Examination.	In What Condition Examination is Made.	Amount in c.c.	Appearance.	Reaction.	Specific Gravity.	Steapsin.	Amylopsin.	Trypsin.	Remarks.
32a.	L.	Chronic Jaundice.	1-19-10	After Breakfast.	..	Yellowish.	Alkaline.	....	+	+	+	Contains bile. Albumin, two-thirds present. Stomach contents show absence of HCl.
32b.	L.	Chronic Jaundice.	3-15-10	After Tea and Sugar.	..	Whitish.	Alkaline.	....	+	+	+	Albumin, one-half present.
33	M. O.	Chronic Jaundice; Tumor of Liver; Hyperchlorhydria	12-16-09	After Tea and Roll	..	Golden Yellow.	HCl. + Slightly Acid.	....	..	..	..	Contents of a golden yellow color mixed with mucus. Stomach contents showed no bile, acidity 90.
34	Bu.	Cirrhosis of Liver.	12-14-09	After Tea and Sugar.	12	Golden Yellow.	Alkaline.	1008	+	+	?	Trypsin very weak. Stomach contents HCl. +
35a.	F.	Cirrhosis of Liver; Euchlorhydria.	2-22-10	After Tea and Sugar.	10	Yellowish.	Alkaline.	1005	+	+	+	Albumin, one-eighth present. Thymus nuclei disappeared. Connective tissue partially dissappeared.
35b.	F.	Cirrhosis of Liver; Euchlorhydria.	3- 1-10	After Tea and Sugar.	10	Yellowish.	Alkaline.	1004	+	+	+	Albumin, one-fourth present.
36	R. H.	Cholecystitis.	12-19-09	After Tea and Roll	..	Yellow, Thick and Turbid.	Alkaline.	....	+	+	O	Stomach contents showed presence of HCI and an acidity of 35.
37	H.	Cancer of Liver.	2-20-10	After Tea and Sugar.	8	Golden Yellow, Mixed with Mucus.	Alkaline.	1004	+	+	+	Thymus nuclei disappeared, connective tissue present.
38	A.	Banti's Disease.	3- 2-10	After Tea and Sugar.	10	Golden Yellow.	Alkaline.	1007	+	+	+	Albumin, remains only in minute trace.
39	Y.	Hyperchlorhydria and Neurasthenia.	3- 6-10	After Test Meal.	8	Golden Yellow.	Alkaline.	....	+	+	Slight	Albumin, two-thirds present.
40	B.	Ulcer of Stomach.	3-14 10	After Tea and Sugar.	10	Golden Yellow.	Alkaline.	1005	+	+	+	Albumin, one-eighth present.

In Case 14 (severe hyperchlorhydria and atonic dilatation of the stomach), in Case 17 (ulcer of the stomach with continuous vomiting), and in Case 33 (hypertrophic cirrhosis of the liver with chronic jaundice and intense hyperchlorhydria) the duodenal contents were acid and contained small quantities of free hydrochloric acid. The tests for the ferments were negative. In all other cases the contents were slightly alkaline or neutral and only rarely slightly acid. Case 15 (hyperchlorhydria and chronic enteritis) yielded a thick mucous fluid, to which later a pure golden yellow bile was added.

Seven cases of achylia of the stomach (19-25) showed twice an entire absence of trypsin and once a weak trypsin reaction whereas the other ferments were present. In one case of diabetes mellitus with normal stomach secretion (27) the contents showed absence of amylopsin, whereas the other ferments were present. Another case of diabetes with achylia (28) showed the presence of all the pancreatic ferments. In Case 29 (cholelithiasis and achylia gastrica) the contents were yellowish and turbid, but contained all the ferments. Four cases of chronic jaundice (30-33) showed the following result: in two (30 and 31) the duodenal contents did not reveal a trace of bile, while all the pancreatic ferments were present. In Case 32 a little bile was present once, another time it was absent. In Case 33 bile was present, mixed with mucus; hydrochloric acid was also present in small quantities.

Two cases of cirrhosis of the liver (without icterus) (34-35) showed good duodenal contents with bile; in one (34) trypsin digestion was very weak. In one case of cholecystitis (36) the contents were yellow but thick and turbid and showed no trypsin reaction.

Case 37 (cancer of liver) furnished a golden yellow juice mixed with mucus, showing all the pancreatic ferments. Case 38 (Banti's disease) showed normal duodenal contents. Case 39 (hyperchlorhydria and neurasthenia) showed weakened trypsin digestion and 40 (ulcer of stomach) normal duodenal contents.

In the column "Remarks" (Cases 7a, 11c and d, 35a, 37) a few experiments have been recorded, to test the relation of duodenal contents in reference to nucleus and connective tissue digestion (thymus and catgut). For comparison the effect of gastric contents on the same substances was noted in each instance. It was found that catgut as well as connective tissue (as contained in the raw thymus gland) can disappear entirely in neutral or weakly alkaline duodenal contents and that the nuclei of the thymus gland can also be digested in the stomach contents. Thus both these specific reactions (connective tissue for gastric digestion, and nuclei for pancreatic digestion) prove themselves to be entirely unreliable and without significance.

Among "remarks" we also find an experiment with secretin, showing the marked influence it has on the augmentation of secretion of bile and pancreatic juice (Case 11f).

I wish to emphasize particularly a few points.

1. *Achylia Gastrica.*—Among the seven cases of achylia gastrica trypsin was absent twice and once was only very weak, whereas steapsin and amylopsin were present. The disturbance of the pancreatic function in the above affection of the stomach explains why we frequently find intestinal troubles associated with it.

2. *Admixture of Mucus.*—An admixture of mucus with the duodenal contents occurs in two ways and is probably of some significance. The mucus may be evenly and intimately mixed with the contents, or it may appear at intervals in the relatively clear contents of the duodenum. The latter would point to the origin of the mucus from the duodenum, whereas its intimate admixture would point to its origin either in the pancreas or the bile passages. Presence of mucus in conjunction with other clinical symptoms (diarrhea, distress some time after meals) would lead us to think of duodenal catarrh (Case 15, Mrs. H. H. R.).

3. *Absence of Bile.*—Occasionally we obtain on aspiration of the duodenal contents at first only a clear or slightly amber-colored fluid. It is of alkaline reaction and contains the pancreatic ferments. Usually after waiting a short time and after repeated aspirations a golden yellow fluid (containing bile) appears. This has no diagnostic significance. If, however, after patient waiting and aspirating, only pancreatic juice but no trace of bile appears, it may be of some importance, particularly in cases of chronic jaundice. If bile is present in the duodenal contents a complete occlusion of the common bile-duct can be excluded. If the bile is entirely missing and pancreatic juice is present, it points to the seat of the obstruction above the common duct.

Even if the results of these examinations are only meager, I should like to call attention to the fact that this field is entirely new and as yet hardly invaded. It might be expected that further work in the same direction will reap rich fruits not only with regard to diagnosis but also for therapy.

20 East Sixty-third Street.

THE CUTTING IN TWO OF A LARGE STEEL PIN WHILE TRANSFIXED IN THE LEFT BRONCHUS AND ITS REMOVAL BY LOWER BRONCHOSCOPY

A BRONCHOSCOPIC PIN-CUTTER AND FRAGMENT-HOLDER, DEVISED TO MEET THE EMERGENCY

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CHICAGO

The conditions which result from secondary infection, bound to occur in time at the site of a foreign body, which remains unrecognized or unremedied in the bronchopulmonary tract, must often have been mistaken for primary tuberculosis or other initial disease; for instance, a chronic pulmonary abscess, menacing to life, eluded all efforts to establish its cause until the sudden expulsion by cough of a spicule of bone, which was followed promptly by healing of the abscess. But that secondary infection may be delayed, for weeks or months, with little or no suffering, provided the foreign body be of narrow caliber, non-obstructive and non-absorbent, was notably evident in connection with the glass-headed, 1½-inch, very sharp, black steel pin, which lodged in part at the bottom of the left bronchus and in part within the first bronchial branch of a 15-year-old girl. In this position the pin had remained undisturbed and undisturbing for a period of ten weeks, having caused, during only the first week or two, mild coughing spells with sensations of pin-prick and slightly blood-stained expectoration—symptoms which merely encouraged the family to hope that the pin would be coughed up; while afterward the absence of suffering encouraged the thought that it probably had been coughed up. Freedom from suffering for so long a period naturally leads a patient to forget or at least to doubt the continued presence of a foreign body, and as the physical signs are apt to be equally indefinite it is only since the discovery of the x-ray, supplemented now by bronchoscopic inspection, that a means of positive demonstration has existed.

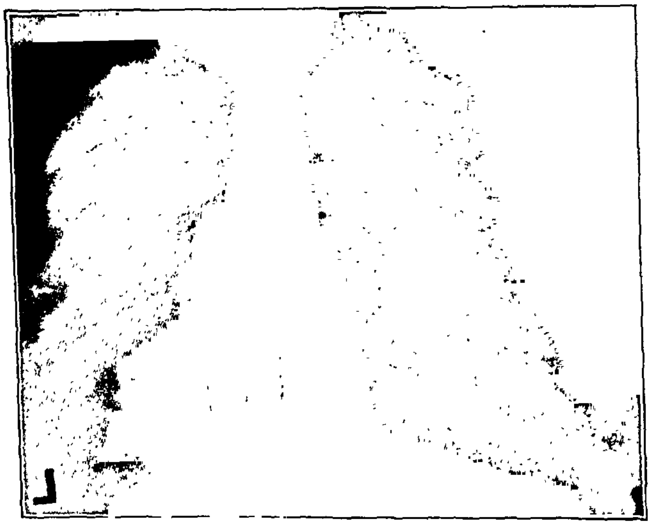


Fig. 1.—Vertical false shadow "very like a pin" on the right side, the real shadow being on the left side, obscured by the sixth rib.

Two delusions, however, in the interpretation of the radiographs, which were taken after physical examinations of the chest at the end of the ten weeks, had failed to elicit any definite signs on which a diagnosis could be based, will serve to remind us of the shortcomings of the x-ray and to accentuate the need, as well as availability, of direct observation through the bronchoscopic tube for orientation of the foreign body in position and for establishing its precise conditions, before one can feel assured of its ready removal. One of these delusions concerned a false shadow on the right side in the first x-ray plate, a shadow "very like a pin," so much so that it was for a time mistaken by every one, whereas the pin was lodged on the left side, its real shadow being visible but obscured in the shade of the sixth rib (Fig. 1). The other delusion resulted from the idea conveyed by the radiograph of a greater than the actual depth of the location of the pin in the bronchi, a fallacy due to difficulty in realizing that the sixth intercostal space at the back, the site of the pin shown in the radiograph, is on a plane not deeper than that of the third rib in front (Fig. 2), and that the bottom of the bronchus at the site of its first branch, where the pin was found, corresponds to the same plane. Notwithstanding comparative measurements, I was expecting to meet the pin lower down in the bronchial tract.

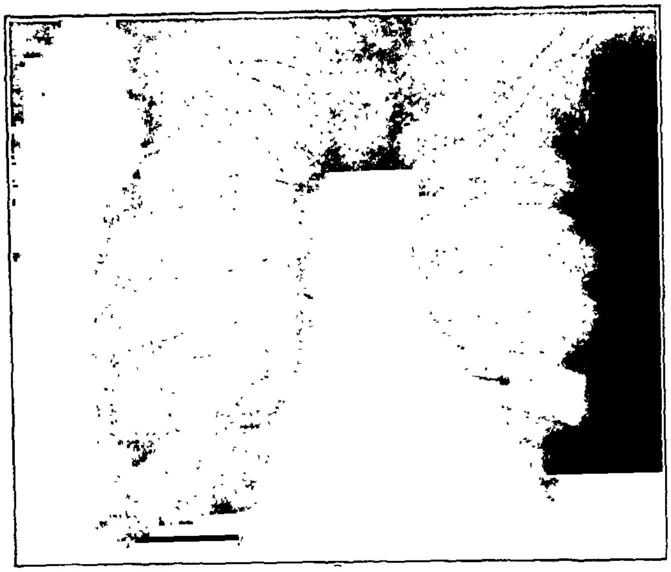


Fig. 2.—The pin in the left sixth intercostal space at the back, on the same plane as the third rib in front, and at the same level as the first bronchial branch, where the pin was found.

The manner in which the accident occurred is worthy of comment in order that women may be warned against a certain habit while dressing, for the pin had dropped so easily and naturally into the bronchial tubes, lodging where its transfixion by the impact of cough was inevitable, that one must regard it as an accident liable to repetition.

The young woman, with pin in mouth and skirt in hand, in readiness to drop the skirt by encircling it over her head, raised very high her outstretched arms—an act which is identical with the first movement in Sylvester's method of resuscitating suffocated persons, a method which owes its power to the fact that raising the arms, forcibly expands the lungs and causes an inrush of air, the mouth opening, itself, as if by instinct; and, at the same moment, in readiness to let the skirt fall clear of her hair, the head was thrown backward and face upward—an attitude which is identical with the sword-swallower's position, so called because it brings the mouth, larynx and windpipe into a straight vertical line. The pin, let loose by the involuntary parting of the lips, simply dropped, with the air-current, head foremost straightway into the left main bronchus, and on downward till its head and two-thirds of its stem had passed into the first bronchial branch, where that much of it became hidden from bronchoscopic view in the upturn by which this branch is given off to supply the upper lobe. The pin, being too long to make the turn completely, was arrested, evidently, with its head compressed against an upturning segment of the bronchial branch. The point, carrying one-third portion of the stem, which alone remained exposed to bronchoscopic view, projected from the orifice of the branch diagonally upward across the rear segment of the main bronchus, its end impinging against and its point inserted into the wall of the bronchus (Fig. 3).

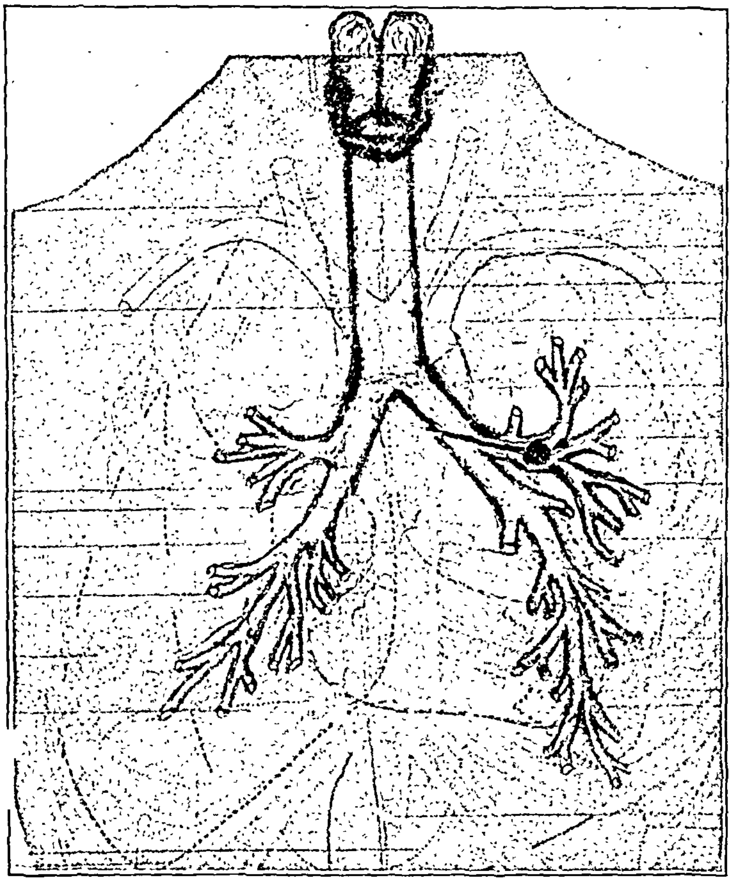


Fig. 3.—The transfixed position of the pin in the bronchial tree (Jackson) and thorax (McClellan).

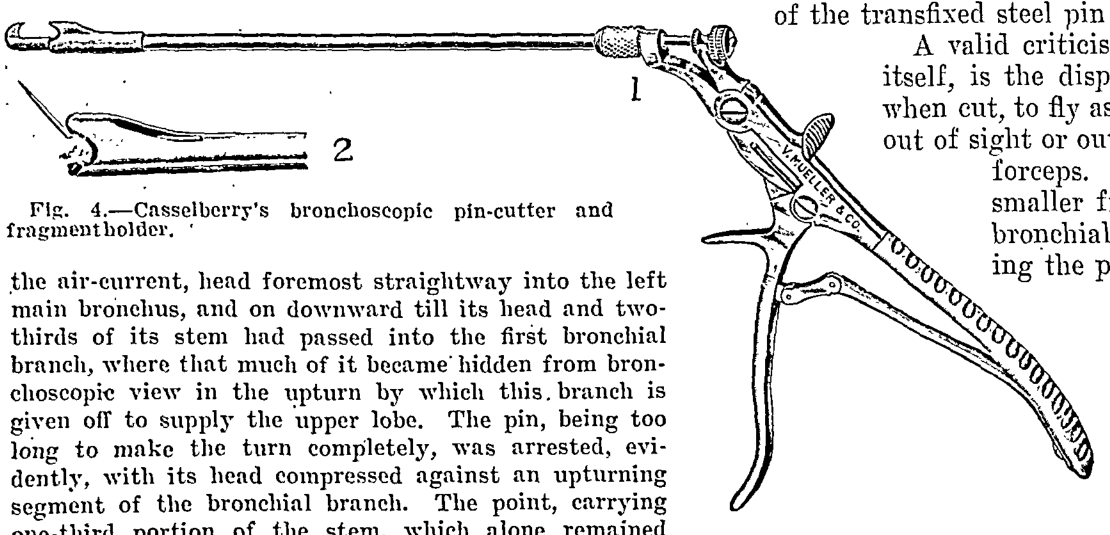


Fig. 4.—Casselberry's bronchoscopic pin-cutter and fragmentholder.

The precise location of the pin, with the fact of its transfixion, was first ascertained only by the upper bronchoscopy at the first operation, an operation which, though it failed for the moment to remove the foreign body, fulfilled its avowed alternative purpose, to obtain information which would enable one to remove the pin at a subsequent operation, and without which the plan of cutting the pin in two could not have been formulated. The fact that both ends of the pin were up against a barrier explains how, by the impact of cough, the pin-point had been driven so firmly into the bronchial wall and why the repeated efforts at the first operation to displace the pin should have failed.

I need not particularize the first operation except in so far as these efforts to displace the pin tended to show the actual necessity for cutting it. A skilled first aid, Dr. G. P. Marquis, an expert anesthetist, Dr. Herman Peterson, an excellent mechanician, Mr. V. Mueller, suitable hospital facilities at St. Luke's and approved appliances were all at hand, the patient's head being satisfactorily held in the Boyce position by Dr. E. W. Bodman. Tubes of the Brunig-Killian and Jackson types were passed by the mouth through the larynx and downward, the first one, inadvertently, being passed over and beyond the pin, which rather hugged the back wall of the bronchus, but on withdrawing the tube somewhat, the exposed third of the pin came plainly into view. No difficulty was encountered in grasping the pin repeatedly through the tube, at a depth of about 11 inches, with various bronchoscopic forceps, the grasp being renewed to change forceps or the vantage-point of its grip no less than twenty times in order to apply leverage and reasonable force in every promising direction; but all without avail, other than a spontaneously uttered conviction, when the attempt was given up for the time, that the pin must first be cut in two.

Among the multiplying number of foreign bodies in the bronchial tract which are now being brought to light through the efficiency of the bronchoscopic methods introduced by Killian and advanced by Jackson, Ingals, Coolidge, Mosher and others, it is probable that additional cases complicated by transfixion will be encountered; hence, I propose as a general principle, the plan adopted in this case, of facilitating the bronchoscopic extraction of immovably transfixed pointed objects, such as pins, needles and perhaps open safety-pins, by first dividing them, via the bronchoscopic tube, into two or more parts; and I commend the instrument or pin-cutter devised for this purpose as a desirable addition to our bronchoscopic apparatus. The chief import of my theme can be expressed in the statement that, had the device (Fig. 4) and the principle now proposed for its use been already in vogue, a second operation for the extraction of the transfixed steel pin would not have been required.

A valid criticism, which will at once suggest itself, is the disposition of the parts of a pin, when cut, to fly asunder, hence, possibly, to drop out of sight or out of reach of the bronchoscopic forceps. Thus, I feared that my smaller fragment might get lost in the bronchial secretion and, as after dividing the pin, less than a quarter-inch of the larger fragment would remain exposed, I feared that it might disappear, by retraction, wholly around the curve of the bronchial branch. But neither of these contingencies occurred. I had modeled in the rough the beak-shaped slotted scissor-like device shown in Figure 4, to cut into two pieces, not punch into three, with the expectation, further, that one of the two pieces might adhere in its beak, thus limiting at least the scattering of fragments. My suggestions were skilfully elaborated by the makers (V. Mueller & Co.), and happily the mechanism even exceeded my expectations in this regard. I observed while testing the instrument that not only, as expected, would one of the fragments adhere in the serrated slit alongside the bevel, but that it adhered with dependable regularity and firmness as long as the blades were not permitted to reopen; moreover, as it was invariably the end of the pin next to the beveled side of the blade which so adhered, the operator could elect the fragment to be held and the one to be let loose, provided the pin were transfixed in space enough to admit the jaws either under or over it, hence to turn the blade bevel next to whichever end he might elect.

Profiting by these test observations, I planned to minimize the risk of losing my smaller fragment by electing it to be held in the grasp of the pin-cutter, and to diminish the risk of letting loose my larger fragment by cutting it off not too close to the bronchial branch. Beyond these precautions the chance that the fragments might still get lost was, I felt, a bare chance that must be taken.

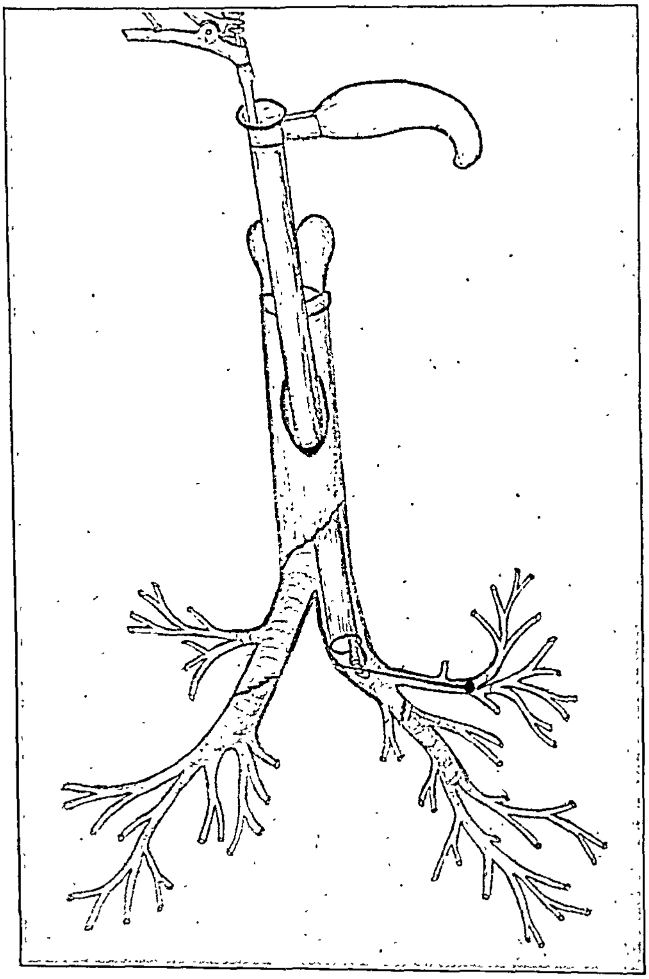


Fig. 5.—Diagram showing the method of cutting the transfixed pin in two.

I questioned the absolute necessity for shortening the route to the pin by opening the windpipe, but considering the novelty of the procedure of cutting the pin *in situ*, a position none too near at best, I deemed it inexpedient to add uncertainty by adding distance. It is now realized, however, that the pin-cutter and the principle of its use are applicable as well at the longer range of upper bronchoscopy. In fact, the only uncertainty encountered in the final operation was, not in cutting the pin, but in finding it before cutting it, a delay which was incidental to the tracheal opening, for the bronchoscopic tube, when entered at the incision was deflected by the chin somewhat out of its most favorable line; so despite the distally lighted Jackson tube, augmented by a Brunig-Killian headlight, and the best conditions for artificial lighting in the semi-darkened throat-room of St. Luke's Hospital, a combination which yielded a brilliant illumination of the bronchial tree, the pin, for a time, could not be seen. The same competent aids were present but having made the low tracheotomy as a first step in this operation, the patient's head had not been adjusted precisely in the Boyce position. A readjustment of the head caused the chin to drop out of the way, when on passing the tube again through the tracheal opening but directing it as nearly in the median line as during the upper bronchoscopy at the first operation, the pin came plainly into view, being in the same location and in the same state of transfixion. A few aditional efforts to extract it without cutting having proved futile, the pin-cutter (Fig. 5) came next in order. It operated exactly as planned; one could hear the snap, see the larger fragment shiver and then discern the small pointed piece in the beak of the instrument, held fast in which it was withdrawn. The larger piece settled somewhat, but its short exposed end was now an easy mark and in another minute, in the grip of a Jackson forceps, it also came safely out. (Fig. 6.)

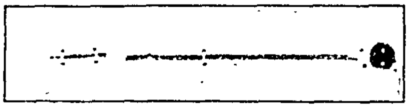


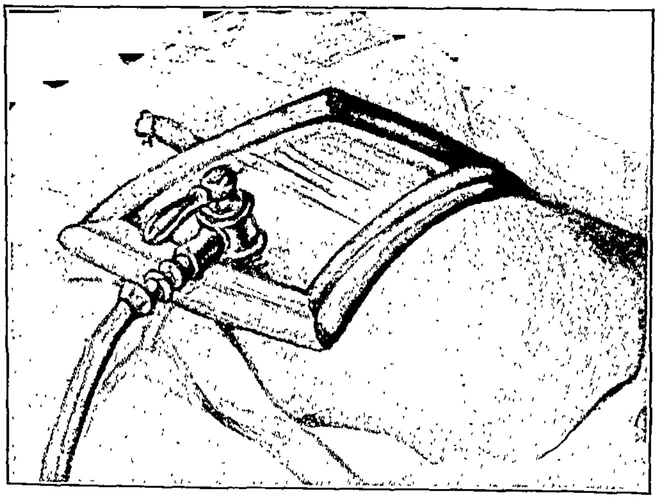
Fig. 6.—The pin in two parts; actual size.

34 Washington Street.

A PNEUMATIC SHIELD FOR OPERATIONS ON THE LUNG

W. WAYNE BABCOCK, M.D.
PHILADELPHIA

In thoracic surgery in man, positive or negative pressure devices are rarely essential. Either pleural cavity or even the anterior mediastinum may be invaded without, as a rule, a fatality from operation pneumothorax. It is a source of satisfaction, however, to have available an apparatus capable of almost instantly removing the condition of pneumothorax.



A pneumatic shield for operations on the lung.

In 1908[1] I devised an aspirating shield to be applied over the wound under such conditions. The present shield is modified by omitting the metal rim and glass window which interfered with accurate coaptation to the chest wall and substituting a simple inflated rubber rim in which is held a flexible celluloid window. The apparatus may be sterilized in the autoclave or in boiling water. A simple two-way cock connects the cavity of the shield at will with either the external air or a suitable vacuum tank. To overcome pneumothorax the shield is applied over the wound and the lever turned connecting the vacuum tank with the cavity of the shield until the lung is sufficiently inflated. The partial vacuum may be continued, or, if desired by gradually turning the lever so as to admit air one may observe the effect of a gradual reproduction of the pneumothorax. A form of artificial respiration may be produced by alternately producing and relieving the negative pressure in the thoracic cavity. The instrument may be applied during the suturing of the wound by moving the shield just in advance of the introduction of sutures. A final aspiration with the aspirating tube to free the chest of any residual air may be employed as the last suture is tightened. The large transverse area of the tubing renders the instrument efficient despite imperfect coaptation and considerable leakage. Leakage may be reduced by applying wet gauze against the sides of the shield. A regulating valve connected with the vacuum tank is desirable to prevent too violent aspiration and the production of traumatic emphysema.

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[1] Babcock, W. W.: The Operative Treatment of Pulmonary Tuberculosis; Report of an Excision of Over One-half of the Right Lung, The Journal, April 18, 1908, p. 1263.

2033 Walnut St.

THE CLINICAL RECOGNITION OF THE SCAPHOID TYPE OF SCAPULA AND OF SOME OF ITS CORRELATIONS*

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In my communication, "The Scaphoid Scapula, a Frequent Anomaly in Development of Hereditary, Clinical and Anatomic Significance,"[1] presented to the St. Louis Medical Society, Feb. 5, 1910, I indicated the relative frequence of the scaphoid type of scapula in our population in dry bones and in fetal, embryo and monster forms. The main thesis of that communication was: The scaphoid scapula is an anomaly in development originating in the progeny from some abnormal circumstance operating in the parents, is thereafter transmitted from parent to child, and so on through several generations, and unless the abnormal circumstance again becomes operative in the descendants, the scaphoid scapula finally disappears and the racial type again becomes dominant.

I showed that it occurred most frequently in individuals deviating from the average in physical or mental endowments, or both, and stated that the natural habitat of the scaphoid scapula was in the deviate. I showed further that in individuals of the second generation in whose parents a definite abnormal circumstance—syphilis—had operated, the scaphoid type of scapula was correlated with certain conditions, such as nocturnal incontinence; with certain physical signs, such as catarrhal affections, adenoids, an abnormal degree of lymph-gland palpability, and above all, with vasculosclerotic changes occurring very early in life; in some detectable by the ordinary methods of clinical investigation as early as the fourth, and as a rule as early as the tenth, year of life; and in older individuals a degree of arteriosclerosis out of all proportion to their years. Even in individuals of the third and fourth generations, the last-mentioned correlations, amounting almost to parallelisms, will be frequently found. It is to the clinical recognition of the scaphoid type of scapula and of the correlations just mentioned, and to the recognition of others in the living subject, that I desire at this time to direct attention, since the appreciation of certain of these correlations is fundamental in the study of the causation of the scaphoid type of scapula and in the consideration of the many weighty and intricate problems that appear to be intimately associated with it.

The recognition of the scaphoid type of scapula in the living subject will not be found difficult if one remembers its characteristics as shown by my studies of dry bones, embryonal and fetal forms. Of these characteristics the following are usually readily discernible in the living subject: first, the vertebral border below the scapular spine is more or less concave; this may be almost or quite straight, slightly or distinctly concave; second, the scapular index is as a rule less; that is, the bone is longer in proportion to its breadth than in the average type (this may be roughly estimated in the living subject by noting the proportion between length and width of the body of the bone); third, the vertebral border in the scaphoid type more nearly parallels the

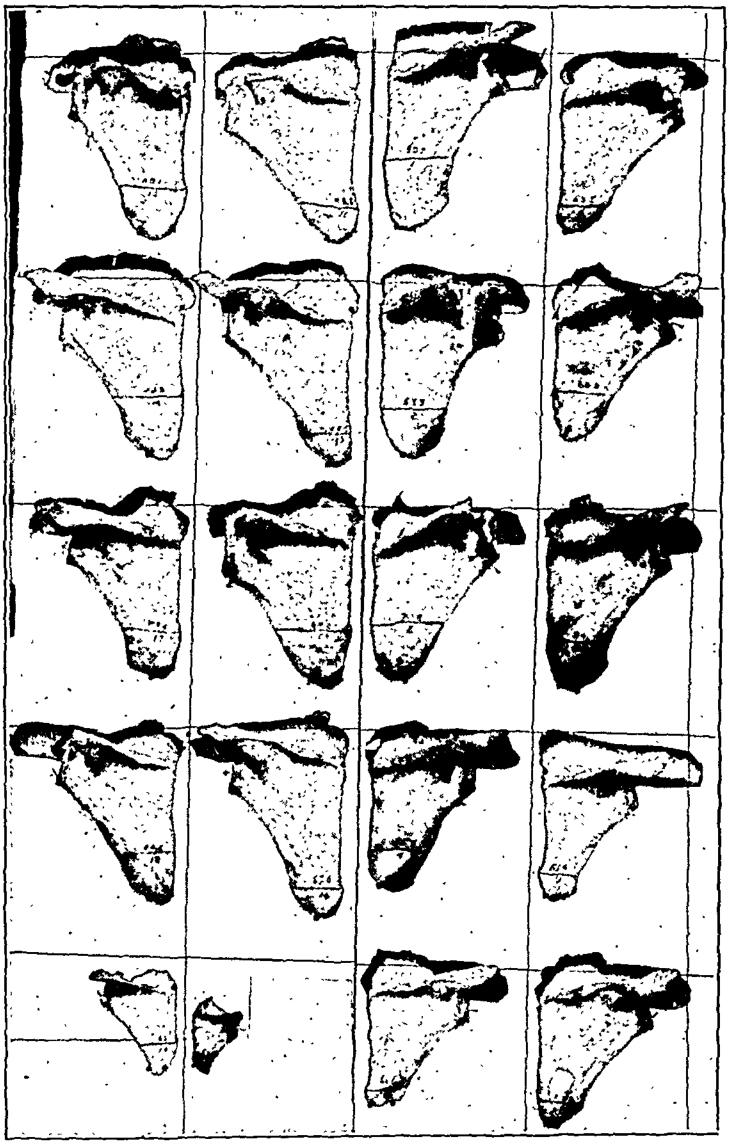

Fig. 1.—A group of scapulæ of the scaphoid type, all having rather decided incurvations of their vertebral borders.

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* Presented to the St. Louis Medical Society, May 14, 1910.

[1] Med. Rec., May 21, 1910, p. 861.

long scapular axis and a straight line than in the average type of scapula; fourth, as a rule, the spine in the scaphoid type forms more nearly a right angle with the long scapular axis than does the spine of the average type; fifth, the vertebral border buds, tuberosities, varying in size and number, are much more common in the scaphoid, especially in those nearer straight, than in the average type of scapula; sixth, in the same subject having scapulæ of the scaphoid type, differences in size and form and specific differences in the contour of the vertebral borders are common.

Only in exceptionally thin individuals may one determine the other characteristic of the scaphoid type of scapula previously described; namely, the constant absence of lips and intermediary surface in those scapulæ which have marked concavity of the vertebral borders. Two or more characteristics will invariably be found in those individuals having the scaphoid type of scapula and these may usually be determined by inspection and palpation. In individuals who are exceptionally muscular or obese, the *x*-ray may supplement inspection and palpation, an expedient I have not thus far found necessary.

As a matter of course all clothing must be removed, at least to the hips, and the patient should assume his natural attitude, standing several feet in front of the examiner in good illumination. To appreciate natural attitudes fully, the patient should be inspected from the front, laterally, and from the rear, during which the shape of the chest, the abdomen, the course of the clavicles, the length of the neck, the muscular development, the spinal curves, etc., are studied. Then by examination of the scapular region, in average individuals the upward and outward slant of the scapular spines, the graceful downward and outward curves of the vertebral borders beneath the fibres of the trapezii and the underlying mass of the rhomboids attached to these borders may be made out easily. The course of the long scapular axis may thus be readily determined to be downward and outward, so that the bases of the scapular spines will be found to be from 2 to 6 cm. nearer the spinal axis than are the inferior angles.

In individuals having the scaphoid type of scapula, the picture is completely changed. The chest is frequently narrowed in all diameters, especially anteroposteriorly. There is often a narrow costosternal angle and floating tenth ribs; the clavicles very frequently take rather a horizontal course increasing the dimensions of the supra-clavicular regions, and there is often undue prominence of the acromioclavicular articulation. The shoulders hang, drooping downward and forward. The vertebral borders stand out prominently, wing-like, and especially that portion of the borders merging into the inferior angles. There is paralleling of these borders with each other and of these with the spinal axis, so that the distance between the inferior angles of the scapulæ and the bases of their spines is nearer equal, and in some instances the bases of the spines are further away from the spinal axis than the inferior angles of the bones. In many instances, even when the individual is caused to approximate the vertebral borders of his scapulæ by drawing the shoulders directly backward, the phenomena just described will still be apparent, though to a somewhat less degree. The sluggish attitudes of such individuals, especially of the shoulder regions, the frequent lowering of one shoulder and usually on that side where the scaphoid type of scapula is most marked, the changed relations of the vertebral borders with each other and of these with the spinal axis, have their foundation in the anatomic characteristics of this type of scapula mentioned above.

In individuals having average scapulæ, marked differences between them in the same individual will rarely be found; but this is so frequent in the scaphoid type of the scapula that it must be considered as one of its chief characteristics. Marked differences will be noticed not only in the contour of the vertebral borders, but in some cases in the breadth and length as well. The differences in size, and especially the differences in contour of the vertebral borders, should also be considered in determining the presence of the scaphoid type of scapula. In the cases in which the difference is quite decided, causing the lowering of the shoulder on the side where the scaphoid type is most marked, lateral curvature of the spine is not infrequent. In some individuals who have acquired better attitudes of their shoulder regions an accentuation of the anterior curve in the dorsolumbar region occurs.

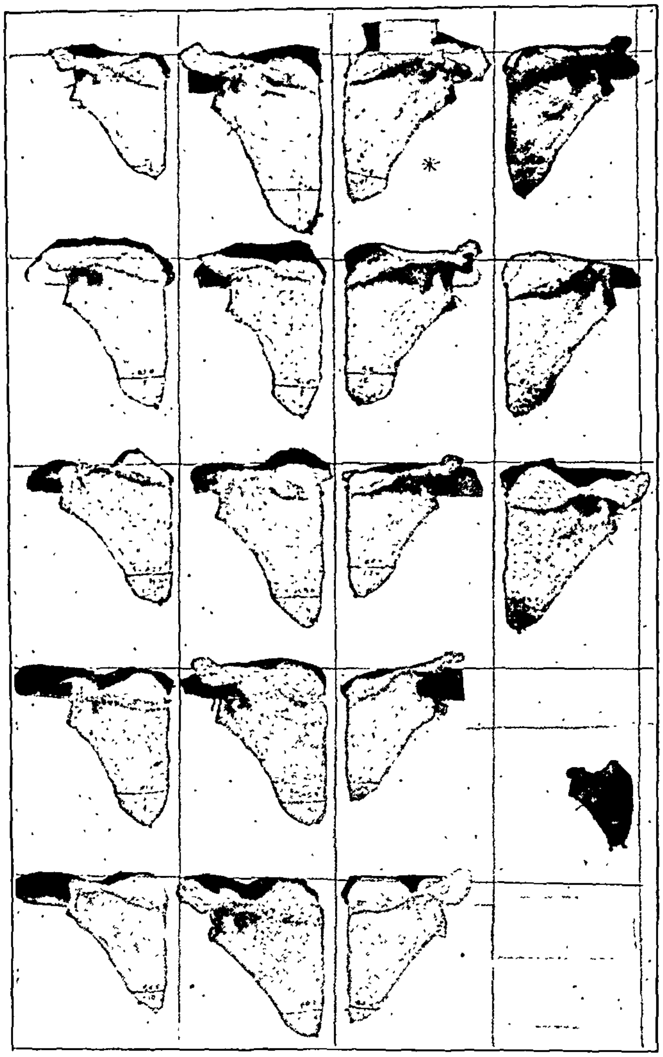

Fig. 2.—A group of scapulæ of the scaphoid type, all having more or less straight vertebral borders except the one with a star next it, whose border is slightly convex—a border-line scapula.

In thin individuals having the scaphoid type of scapula, the hollowing out of the vertebral borders may be readily appreciated merely by inspection. But to appreciate this better and the degree of it in each scapula, to appreciate the shapes of the bones as well as the presence of the vertebral border buds, palpation of the scapula should not be neglected. The marked differences of shape and size of the scapula, as well as the degree of concavity of their vertebral borders and the number and size of the vertebral border buds, may be well appreciated in the living subject; but to facilitate this study, I reproduce here three series of bones illustrating the anatomic characteristics found in my studies of dry bones (Figs. 1, 2 and 3).

Before considering the clinical recognition of some of the correlations of the scaphoid type of scapula and the better to appreciate these, it will be well for the moment to direct our attention to the individuals in whom these are associated, and then by looking at a composite picture of such individuals to study the correlations at closer range. Confining our studies in the beginning to the individuals in whose parents an abnormal circumstance—syphilis—has operated, we shall find that such individuals, as previously pointed out, are of retrograding, deviating types. In any one of these, when compared with either parent or with his cousins, his uncles and aunts or with the average members of the community in whose parents the abnormal circumstance has not operated, deviation will be found in the physical or mental development, and usually in both. Among such progeny will be found many of the heretofore recognized anatomic, physiologic, psychic and psychoneurotic stigmata which I shall not here particularize.

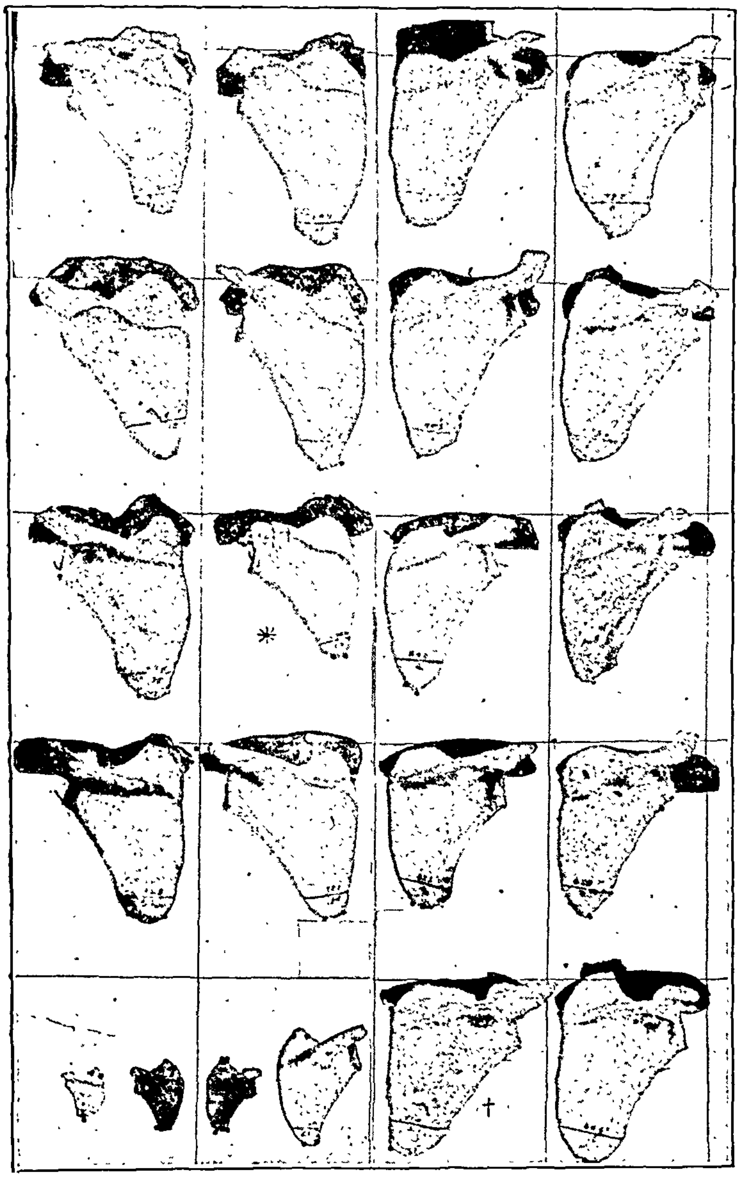

Fig. 3.—A group of average scapulæ, the dominant racial type, excepting the one with a star and that with a dagger near, these being border-line scapulæ but nearing the average type.

In only a few instances have I thus far found the well-marked scaphoid type of scapula in individuals even approaching average development. Such individuals are usually undersized, have sluggish attitudes, meager musculature and are strikingly lacking in the harmonies of physical development. They range in stature from dwarfs to giants, but whether the one or the other, or merely undersized, disharmony characterizes their physical development. Many of them, apparently physically normal at birth, in their later development show retardation or grow by fits and starts until near, either before or after, the usual age of puberty, they shoot up like weeds or forever remain stunted—blighted.

With the beginning of mental development such progeny are either backward and remain so, or they show—and this is the rule—precocity. If disharmony characterizes their physical development, it is especially true of their mental development. They have no childhood. They seem almost to jump from the cradle to adolescence. "My children are old in their ways" is a frequent expression of certain observing mothers, and they may add "They are almost always ailing." Or the unobserving mothers (and ignorance and mother-love and pride makes them so) may proudly say "My children are all healthy." Indeed, physicians usually consider such children healthy, or at least free from syphilitic blight, in the absence of "snuffles," eruptions of the skin and mucous surfaces, bone and joint affections, Hutchinson's teeth, interstitial keratitis, and deafness without otitis. Children of the second generation are as a rule older than their years; they are often ailing and are rarely healthy; but to appreciate the truth of these assertions we must, as physicians, study the individuals of families rather than the histories of individuals of families.

While idiocy, imbecility and backwardness in mental development are relatively frequent in the second generation, such mental states are by no means common. My studies of the offspring in whom an abnormal circumstance—syphilis—in the parents is beyond question, show precocious mental development to be the rule. Not only do such children appear like little old men and women in the seriousness of their ways and actions, their preference for books rather than play, and the society of their seniors rather than their kind; but as individuals, their facial expression is lacking in the freshness of infancy, childhood or youth and they ever afterward appear much older than their years.

Many of them develop sexual instincts long before puberty, and these are often gratified by masturbation, sexual intercourse, or otherwise. Strenuosity and intensity characterize many of these individuals, and before or during adolescence such mental proclivities, associated with the inherently weak constitution, sooner or later lead to an inevitable "break," and they make up a large percentage of the cases commonly classified as neurasthenia, hysteria and dementia præcox. Many cases of epilepsy developing in early or later periods of life are to be found in the individuals of the second and later generations. The incorrigible and so-called criminal classes are increased from the ranks of the second and later generations in a degree probably unequaled by that of any other source. Not a few individuals of the second generation, and many of the later generations, despite their handicap in physical and mental endowments, by learning to adjust themselves to their environment, lead successful, useful and even brilliant lives, though they rarely live out their expectancy in consequence of their abiotic natures.

If the antenatal mortality of syphilitic progeny is so great, it is but reasonable to believe that the influences underlying it are still operative in the living; if not the disease itself, its blighting influences as manifested by disharmony in physical or mental development, or both, by inability to stand the stress and strain of ordinary existence, by degenerative and involutional changes, and by lowered general resistance. Such progeny are truly abiotic; hence the instability of their natures, their proneness to so-called functional disturbances and to disease, to degenerative and involutional changes, to neuroses, psychoneuroses, psychoses, and above all, to tuberculosis.

In my studies of the scaphoid type of scapula and its correlations[2] I have been greatly impressed by the unusual frequency of tuberculosis in such progeny and in the progeny of later generations. This is not the place to dwell on the ramifications of the scaphoid type of scapula and some of its correlations in general and special pathology, but it seems proper to mention here the abiotrophies of Gowers, the neuroses and psychoneuroses and especially epilepsy, dementia praecox and tuberculosis, since my studies have shown the unusually frequent association with these conditions.

Nocturnal incontinence is relatively frequent in individuals having the scaphoid type of scapula and other correlations. It was present in about 16 per cent. of fifty boys, inmates of St. Joseph's Orphan Asylum, studied in a preliminary way, and it is such a very common condition in the second generation that it may well be considered one of the correlations of the scaphoid type of scapula. Fuchs[3] and Mattauschek,[4] in studying enuresis nocturna in adults, have shown in their cases anomalies of skin and tendon reflexes, slight sensory changes about the feet, syndactylism, deformity of the feet (pes planus, varus and valgus, etc.), the frequent association of the patency of the sacral canal in all degrees from spina bifida to the slightest change in the form and location of the sacral hiatus, the latter demonstrable only by the *x*-ray.

These findings caused Fuchs to assume an actual defect of development (myelodysplasia), meaning thereby an anomalous development about the lower part of the spinal cord. Fuchs has correlated the assumed myelodysplasia with distinct anatomic anomalies, and I have correlated similar anomalies with the scaphoid type of scapula.

The histories of catarrhal affections, tonsillitis, bronchitis, gastro-intestinal disturbance and adenoids, are unusually frequent in individuals of the second and later generations.

Of the boys studied in St. Joseph's Orphan Asylum having the scaphoid type of scapula and some of its correlations, about 60 per cent. are mouth-breathers. In a family of five children of the second generation, recently referred to Dr. R. P. Scholz, adenoids were found in all, and in four to a degree requiring operation. In a group of ten backward public school children studied with Dr. Scholz, having adenoids and mentioned in my first communication, all had the scaphoid type of scapula and other correlations. Since then Dr. Scholz has kept a careful record of those operated on by himself for adenoids, and in a recent conversation he informed me that fully 75 per cent. of them have the scaphoid type of scapula and some of its correlations. Adenoids, therefore, appear to be a very frequent correlation of the scaphoid type of scapula. The "adenoid face," consisting in a dull, vacant expression, dry and separated lips, poorly developed nostrils, etc., discerned by visual or digital examination, or both, renders the recognition of adenoids an easy matter.

A more frequent correlation is undue lymph-gland palpability, and this is so frequent that it is well-nigh constant. Enlarged anterior cervical glands are an almost constant accompaniment of adenoids, but the postcervicals, epitrochlears, and those above and below Poupart's ligament are those more easily palpable and those less frequently involved from peripheral infections; but even these enlarged from peripheral infections, the postcervicals from infections of the posterior portion of the scalp, the epitrochlears from infections of the more distal parts, and the inguinals above Poupart's ligament from infections about the genitalia and below, of the distal parts of the extremities. In any case, the history or the presence of such infection, and above all the equal enlargement, right and left, will usually enable one to determine whether or not the enlargement is peculiar to the individual or due to some peripheral infection.

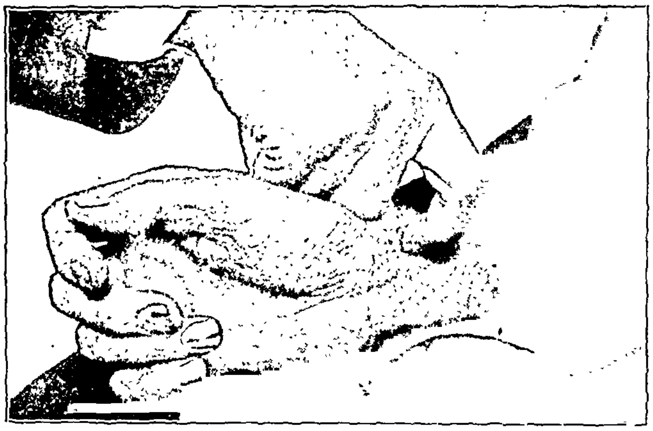

Fig. 4.—A method of finger-tip palpation of the radial artery.

Pupillary anomalies, consisting of asymmetries and differences in size, are so common in individuals of the second generation as to rank as frequent correlations. Such findings should be considered only when neither iritis nor iridocyclitis causing synechia has existed, points readily determined by the history and inspection. In searching for pupillary anomalies, it must be remembered that clumpy distribution of pigment along the pupillary margin ("Ektropium des Pigment-Blattes der Iris"—Bach[5]) may cause a perfectly symmetrical pupil to appear flattened, oblong or cornered. The examination by focal light may readily exclude this condition. The Argyll-Robertson pupil with an otherwise intact nervous system is relatively infrequent in the second generation, though almost invariably associated with the scaphoid type of scapula and other correlations when present. The same may be said of Hutchinson's teeth, interstitial keratitis, deafness without otitis, hypotonia of certain muscle groups, absent knee-jerks and the usual signs of congenital lues heretofore recognized. Juvenile paresis and tabes are almost invariably associated with the scaphoid type of scapula and its chief correlations, and in my first communication I pointed out the frequency of this association with syphilis of the nervous system, with acquired tabes, paresis and other abiotrophies of Gowers.

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[2] In a paper soon to appear, prepared in collaboration by Dr. O. H. Brown and myself, we shall show the frequent association of tuberculosis with the scaphoid type of scapula and some of its correlations.

[3] Fuchs, Alfred: Ueber den klinischen Nachweis kongenitaler Defektbildung in den unteren Rückenmarksabschnitten ("Myelodysplasie"). Wien. med. Wchnschr., 1909, Nos. 37-38.

[4] Mattauschek, Emil; Ueber Enurisis, Wien, med. Wchnschr., 1909, No. 37.

[5] Bach, Ludwig: Die Pupillinlehre. 1908.

In my studies of senility, of the later manifestations of acquired lues, and of individuals having the scaphoid type of scapula, I have been impressed with the peculiar appearance of the conjunctivæ over the sclerotics, which I have noted in my findings as "varnished scleræ." The varnished sclera is present as a rule in healthy individuals as early as the thirty-fifth or fortieth year of life and it increases with succeeding years. Its chief characteristic is a shiny, glistening appearance on a rather undulating, and in older individuals, a slightly yellowish background, so that the surface of the conjunctiva lying on the whitish sclerotic glistens like the cornea. In individuals free from senile changes the surface of the conjunctiva has a more smooth and less shiny appearance—is even dull when compared with the surface of the cornea; so that in such persons there is a distinct contrast between the brilliancy of the surface of the cornea and that of the conjunctiva on the bluish-white background of the sclera. The lack of contrast, on the other hand, is probably one reason for the expressionless eyes of tabetics and paretics and the main reason for the "settled look" in the healthiest of us after the thirty-fifth year of life. The undulating appearance is probably due to wasting of the episcleral or subconjunctival tissue and to the thickening of the walls of the conjunctival vessels, and, in addition, in older individuals, to wasting of the conjunctivæ analogous to that of other mucous surfaces and the skin in senility. The presence or absence of "varnished scleræ" may be readily determined on drawing down the lower lids when the patient is facing the light and directing his gaze somewhat upward. In such position we may readily appreciate the appearance of the conjunctiva if varnished, its tints, its undulations, and lastly, the undue tortuosity of the conjunctival vessels—a sign usually associated with and paralleling it. When the "varnished" appearance is well marked the tortuous vessels seem to lie, rather, on than within the conjunctival tissue. Punctate hemorrhages into the conjunctival and even into episcleral tissues will frequently be found associated with the signs just mentioned.

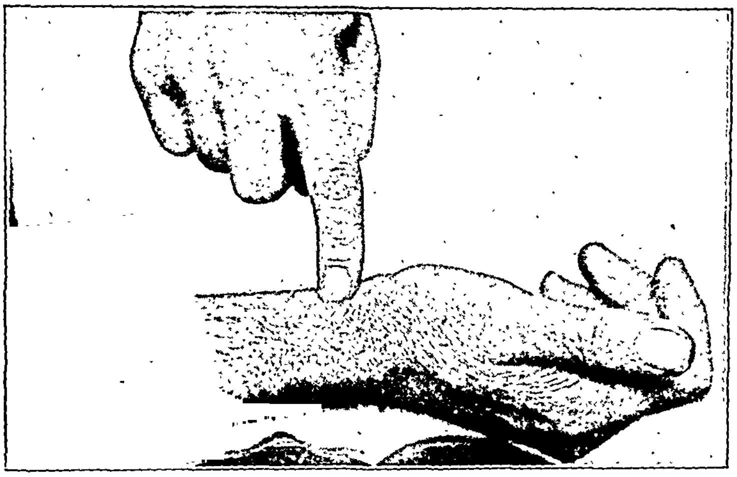

Fig. 5.—Another method of finger-tip palpation of the radial artery.

Aside from the chief correlation of the scaphoid type of scapula, namely, the characteristics of the whole individual, probably the most constant, and to my mind the next in importance, is the correlation of vasculosclerotic changes at an unusual period of life and in older persons out of all proportion to their years. The varnished scleræ and the undue tortuosity of conjunctival vessels are probably due mainly to vasculorsclerotic changes of the conjunctival vessels. The study of these vessels with Luedde's modification of the Zapski binocular corneal microscope, as previously pointed out, appears to offer a ready means of detecting the presence of vasculosclerotic changes, from whatever cause, long before they might otherwise be recognized in the living subject. At any rate this instrument offers additional means of securing corroborative evidence—and it is impossible to have too much of this. With this instrument one may readily see the blood coursing through the conjunctival vessels and discern thickening, crinkling and aneurismal dilatations of their walls.

In certain congenital deformities correlated with the scaphoid type of scapula, studied conjointly by Drs. Luedde and V. P. Blair, evidence of such changes have been found in the conjunctival vessels of nursing infants. By the ordinary methods of clinical investigation, as previously pointed out, I have found evidence of vasculosclerotic changes as early as the fourth, and almost constantly as early as the tenth year of life in individuals of the second generation. A number of these, studied by me, have also been studied by Dr. Luedde and in no instance has he failed by studying the conjunctival vessels to find evidence of vascular changes. The almost constancy of vasculosclerotic changes in individuals of the second generation and our ability to detect them so early in life warrant the deduction that such changes begin during development *in utero*—in other words, the children are born with a degree of arteriosclerosis.

Clinical evidence of arteriosclerosis in the living subject is considered ample when two or more of the following findings are demonstrable: undue palpability of radial and other vessels, visible pulsation in the brachials, undue tortuosity in these, the temporals, and other vessels, including the conjunctival vessels, undue accentuation of the second aortic sound and the determination of the functional worth of the heart muscle. To these must be added an estimation of arterial tension with a suitable apparatus, though alone it is of but little value in determining the presence of arteriosclerosis.

A detailed description of the methods usually employed in studying the cardiovascular apparatus would be superfluous here. But the palpation of vessels is such an important procedure in determining the presence of arterial thickening that I may be pardoned for calling attention to the necessity of accuracy in technic, even in the frequent and time-honored practice of feeling the pulse.

Not only the radial, but the brachial, temporal, posterior tibial and dorsalis pedis, should be palpated and compared, right and left, in our search for vascular changes. Sahli's three-finger method is invaluable in estimating the qualities, tension, etc., of arteries; but in determining sclerotic changes in them it is not to be recommended, because sensation coming in from three fingers is more dispersed than when only from one. In order to determine the sclerotic changes, one should employ, as a rule, one, never more than two, fingers, and two only in cases in which the tension is so great as to interfere with firm palpation with one finger. In counting the pulse, it matters little whether one feels with one's finger-ball or one's finger-tip; but in feeling—in palpating—the vessel-wall with only the ball early and even decided changes may be entirely overlooked. One should, therefore, use the finger-tip in palpating arteries, because the tip is more sensitive than the ball, has less subcutaneous tissue, and more readily adjusts itself to the vessel.[6] The tip of the finger should be placed perpendicularly to the vessel at first lightly, to become aware of pulsation, then with gradually increasing pressure one should roll or attempt to roll the vessel. A moderate-sized artery, such as the temporal or radial when not thickened, is felt to collapse under the increasing pressure and it is with difficulty differentiated from adjacent structures.

When such a vessel is thickened—sclerosed—the wall remains more round, the finger-tip glides over its rounded surface, and one feels a degree of rigidity not present in normal arteries. Sclerosing arteries are frequently unduly tender to firm finger-tip pressure, more so than adjacent structures, the unpleasant sensation persisting at times for several minutes after the pressure has been removed, a point frequently mentioned by patients. As the finger-tip has less subcutaneous tissue than its ball (one reason why it should be employed), it is evident that its applied pressure should be at a point along the course of a given artery where it lies directly over bone and free from overlying muscle. Figures 4 and 5 represent two methods of finger-tip palpation of the radial artery.

In my first communication, I referred to vasculosclerotic changes as a sort of connecting thread between the syphilitic and his progeny. In my studies of many individuals and families on which that and this communication are based, a degree of such changes out of all proportion to the years is the one preeminent clinical fact discernible in the individual who has acquired syphilis, and it is the one significant clinical fact discernible in his children and his children's children. It is, probably, the main cause of the frightful antenatal and postnatal mortality among such progeny; probably the main cause of their lessened expectancy in life; of their proneness to disease—to degenerative and involutional changes; to the so-called functional nervous disorders and the underlying cause of tuberculosis in them—for is not the blood—the life thereof?

Admitting vasculosclerotic changes to be even a frequent correlation of the scaphoid type of scapula, is it not incumbent on us to search for and establish its cause and that of its other correlations? My studies, extending over a period of more than three and a half years, indicate far-reaching ramifications of the scaphoid type of scapula and its correlations—a rather definite syndrome in both general and special pathology. The frequency of what may be called the scaphoid-type of scapula syndrome in our population, occurring in all branches of society, seems to postulate a single cause and one sufficiently potent to modify profoundly the growing organism from its very foundations. Thus far I have found no other cause than syphilis in the ascendants, but my studies have been too brief and too incomplete to enable anyone to draw definite conclusions from them and apply them to every individual in whom this syndrome may be found. This seems certain, however: nothing occurring in the life of an individual after his birth can give him the scaphoid type of scapula and its correlations.

Before one may determine the significance of this syndrome in any individual, the individual must be studied from every angle and in a comparative way with the members of his own family and with average members of his community. With the use of modern refinements in clinical investigation; with the use of laboratory methods, merely to confirm and to control clinical deductions; with patient study of individuals and of the individuals of families rather than the histories of individuals of families on the part of many workers, the ultimate cause or causes, as well as the hereditary, clinical and pathologic significance of the scaphoid type of scapula and its correlations may readily be determined.

My studies thus far warrant my saying at this time that such research on the part of many workers will undoubtedly lead to more complete recognition of syphilis and of its blighting influence in the individual affected, in his children, and in his children's children. Out of such recognition, let us hope a sane prophylaxis may be developed, whereby much suffering which now comes to humanity from this insidious enemy of the human race may in succeeding generations pass away from the earth forever.

727 Metropolitan Building.

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[6] Wertheim-Salomonson (Die Nagelpalpation der Arterienwand, Salomonson, Deutsch. Arch. f. klin. Med., 1910, xcviii, Nos. 4-6; abstr. in THE JOURNAL A. M. A., April 16, 1910, p. 1345) has recently called attention to the value of finger-nail palpation of arterial walls and emphasizes the point that the nail should be placed perpendicularly to the skin, thus calling into play the entire innervation of the nail-bed. Whether the "nail" is more sensitive than the "tip" is questionable. Nevertheless the method seems valuable and should be employed

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INGUINAL HERNIA FOLLOWING APPENDECTOMY*

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DUBUQUE, IOWA

During the past twenty-five years the pathology of appendicitis has been cleared up and the operative treatment has been elaborated and commented on so extensively that the entire country has been thoroughly informed of the gravity of the condition and equally convinced of the necessity for surgical treatment. Dexterous surgeons perform appendectomy with such marvelous simplicity and rapidity before admiring classes and visitors that the latter are impressed with the ease and rapidity of the operation, and fail utterly to realize that there is a surgical reason for every step of this procedure, or that this seasoned operator has worked many months or years to perfect his technic and to study out his attack along the lines of proper surgical anatomy. They see only the simplified application of correct principles.

The result of this is that surgery of the vermiform appendix is more extensively practiced than ever before, and consequently the profession is becoming more and more conversant with the sequelæ of appendectomy, both immediate and remote. It is evident that not every case of survival after the operation cannot properly be called a recovery. Many patients who do not die from the operation are disabled; for the sequelæ of all abdominal operations are increasing. This is not due wholly to the increase in surgery, but partly to the increase in the number of the men who do surgery. It is purely a matter of personal equation—of ignorance or disregard of surgical or anatomic principles. When a thorough knowledge of surgical pathology dictates the operation and a perfected mastery of surgical anatomy directs it, the results, both immediate and remote, were never so satisfactory as at present.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.

Among the commonest sequelæ is hernia; when this is hernia of the abdominal wall or of the scar, it is as a rule the result of delayed union, impaired healing, or of improper suturing. Delayed union may result from a drain or from an infection of the line of incision subsequent to operation. Improper wall suturing may occur through undue haste, or through ignorance of the surgical anatomy of the structure penetrated.

This paper, however, deals only with inguinal hernia. The following case illustrates the type:

H. W., aged 24, was operated on Sept. 26, 1900, for an acute attack of appendicitis; wound closed without drainage; mural abscess evacuated on eighth day; recovery apparently complete on the twenty-first day. Patient resumed work on the twenty-third day after operation. On Feb. 2, 1901, patient presented himself for examination. Long broad scar in right hypogastrium showed evidence of suppuration. Palpation of wall failed to reveal weakness in line of suturing or in abdominal wall. Right inguinal hernia complete, oblique. First noticed as a sense of weakness about Jan. 1, 1901; then, lump appeared in groin, which eventually descended in to the scrotum.

This was an inguinal hernia that followed an appendectomy within four months, and the first of a series of cases that I have seen.

When right inguinal hernia appears as a sequel to an appendectomy, it can usually be ascribed to an infection of the abdominal wall, to destruction of the nervous supply of the inguinal canal, or perhaps to both. Infection of the wall above the deeper layer of the superficial fascia is not destructive of the essential structure of the abdominal wall, but if the intermuscular spaces are invaded there results a serious damage to the muscles as well as to the nerves.

Mural abscesses have been a very common complication of simple wound repair, and were ascribed formerly to improperly prepared suture material. A study of the bacteriology of the skin, however, will lead direct to the cause. The pyogenic organisms most commonly found in mural abscesses is the *Staphylococcus epidermidis albus* of Welch, and where mixed infection occurs, the staphylococcus is usually combined with the *Bacillus coli communis*. Hence the inference is natural that this infection comes primarily from the skin, either from puncture of the needle from unnecessary handling or from improper protection.

It is common experience that mural abscess almost invariably follows any inordinate hemorrhage from the needle wound, and not infrequently this hemorrhage is so sharp that it requires a compression ligature to control it. The blood from this puncture invites invasion by the bacteria of the skin, and the closed wound fulfils all the requirements of an incubator; and in about seven or eight days, just when the patient ought to be recovering, a mural abscess is discovered; repair is delayed, and destruction of the integrity of the abdominal wall is reasonably certain. This interrupted recovery is decidely discomforting; but it becomes absolutely humiliating if in three to six months the patient returns with a right inguinal hernia as a remote result of the infection. Absolute hemostasis, or, if bleeding is unavoidable, the removal of blood by a small wick of gauze emerging from the lower angle of the wound, to be removed at the end of twenty-four hours, will prevent the blood-clot effectively and remove any possibility of mural abscess with its train of dire consequences.

The nerve-supply of the right lower abdomen may be damaged by sepsis, or by ruthless disregard of the course of these nerves in outlining the incision. The nerve supply of this region is obtained from the iliohypogastric and the ilio-inguinal. These nerves arise from the first lumbar with a contribution from the twelfth dorsal; they pass forward over the psoas muscle and penetrate the transversalis above the crest of the ilium and spread themselves in a fanlike manner between the internal and external oblique, perforating the external oblique from 1½ to 2 inches to either side of the linea semilunaris. After the perforation of the external oblique they become merely cutaneous nerves of sensation. But during their course in the intermuscular layer they supply the external oblique, internal oblique, transversalis, intercolumnar fascia and the conjoined tendon. Please note that the above-named structures comprise the anatomy of the inguinal canal.

Any surgical treatment that necessitates the exploration of the abdominal cavity, requires full knowledge of the structures comprising the wall of that cavity; the mere names will not suffice, but the nerves supplying the layers, their course, and distribution must be known, recognized and protected. It is not the object of this paper to discuss the various incisions preferred by surgeons in gaining access to the abdominal cavity; suffice it to say that any method or site of an incision which does not compromise the integrity of the wall, by reason of injury or destruction to important tissues, is surgically justified; and that any incision which has not that object in view is never surgically justified even if recovery without sequelæ should result.

The percentage of inguinal hernia following appendectomy is not large; but if it occurs at all, the proportion is altogether too large since the sequela can always be prevented by surgical knowledge of the structures of the abdominal wall and by surgical precaution to prevent wall abscess.

1222 Locust Street.

ABSTRACT OF DISCUSSION

DR. E. WYLLYS ANDREWS, Chicago: We are familiar with the occurrence of femoral hernia as a sequel to operation done for the cure of inguinal hernia or *vice versa*. There is dilatation of the one canal by reason of pulling upward or downward of its boundary. In the case reported by Dr. Pond there was evidently a weakening of this canal by the injury done to its upper boundary. It is probably true that we must revise our ideas of the pathogenesis of inguinal hernia to a considerable extent, from the important information recently obtained from the preformed sac, which it is now known exists not only in the well-known and well-recognized congenital hernia, but in a very large percentage of so-called cases of traumatic hernia. So that in traumatism we recognize only a slightly exciting cause or, as many of our corporation lawyers are now claiming, a non-existent cause. It may be that Dr. Pond's conclusions were based on an insufficient number of cases, if we lay a great deal of emphasis on the preformed sac as an element in all inguinal hernias. I cannot help recognizing the importance of the anatomic distribution of the nerves and the occurrence of the atrophic changes, which were probably all present in Dr. Pond's case.

Simulation of Pulmonary Tuberculosis.—The compulsory military service in Europe leads to considerable malingering to escape or shorten it, and the latest device of the kind is the simulation of the early signs of pulmonary tuberculosis. Dr. Batier has recently reported three cases of the kind in which the symptoms of the feigned disease promptly subsided when the patients were sent to the guard-house for their attempt to deceive the medical authorities. His communication is published in the *Tribune Médicale*, April 16, 1910, page 241.

PHRENITIS PROSTATICA*

JAMES F. PERCY, M.D.
GALESBURG, ILL.

Affections of the mind proceeding from the pathologic prostate gland have had no place in the literature of disease until 1907.[1] Before this date, the prostate had been considered only from the standpoint of urinary obstruction and infection. It is the purpose of the present paper to emphasize the surgical importance of the prostate along medicolegal lines. I can do this best, perhaps, by detailing the history of a recent case. By way of preface, permit me to say that this history is not an uncommon one. The difficulty has been to attribute the cause of the trouble to its source, viz., the diseased and usually hypertrophied prostate.

Mr. X, aged 66, has a history of prostatic irritation extending over a period of ten years; voids urine three to four times during each night; does not use catheter; amount of residual urine unknown; urine normal except for occasional hyaline casts; rectal examination shows large, soft prostate of estimated diameter of two and a half inches, with length of three inches; blood-pressure, 180; temporal vessels, tortuous; radial pulse, normal; no evidence of spinal cord or brain lesion. The patient is in good general health, except that he has called himself a sufferer from "dyspepsia," for many years. He has always had the reputation of a model citizen; is honest, truthful, and of good financial standing, and of exceptional judgment on general affairs; the father of three healthy children to whom he is devoted, as he also was to his wife when alive. About a year ago he began to furnish material for the scandalmongers of his city, because of his illicit sexual relationship with a woman of questionable character. This woman's domination over him seemed to be complete, even to the extent of transferring a portion of his property to her. He will go to any length, as far as untruthfulness is concerned, to protect what he calls the reputation of the woman in question. Only in this respect has the man's character changed. In all others, he is the same model citizen and father that he has always been.

I cannot report the surgical history of this patient. But he like many of those similarly afflicted, refused operation for fear that it might rob him of his excessive sexual desire. Others in my series of cases, however, supply the necessary postoperative history to show that a chain of certain definite symptoms can accompany hypertrophy of the prostate. These symptoms are usually manifested by immoderate sexual indulgence late in life, together with a distinct mental symptomatology along the lines of the psychic life of the afflicted individual. Unfortunately, these manifestations often occur in a form to discourage the belief that man was created in the image of God.

One of my patients, a physician, aged 68, with a large soft prostate and urinary obstruction, would not use a catheter except when compelled to. His most frequent method was to empty his bladder during intercourse with his wife, aged 64. The latter suffered from an intractable form of leucorrhea. Removal of this man's prostate cured his abnormal sexual life.

Another man, aged 74, first consulted his physician because of the waning sexual desires of his wife, aged 68. He wanted medicines from the family physician to restore her sexual powers. The wife begged the physician not to give her anything, but to do something for the husband. His history showed that the sexual congress averaged from two to four times every night. The family physician suspected some form of spinal cord or brain lesion, and the patient was sent to me for diagnosis. Nothing was found beyond what one would expect in a well-preserved old man. He was very much surprised when told that his sexual activity was absolutely abnormal, and that if persisted in, he would probably develop some form of spinal cord disease. This man had a very large prostate, and its removal stopped all of his abnormal sexual symptoms.

Many of these patients are cunning in a bunglesome way in their efforts to conceal their unappreciated affliction from the family and friends. In a former paper, I described, among others, two cases, in one of which the patient almost disrupted his home and the community in which he lived because of his sexual relationship with some of the lower animals. This man was a lawyer of good standing who had served a number of terms on the bench. He was absolutely cured by the removal of a very large, soft prostate, and has remained well, now six years. The other patient was a progressive business man of the intellectual type, who had scandalized the community by his unlawful relations with negro women. An abscess of his prostate, which destroyed half of it, and caused an atrophy of the remainder, cured him. Subjects of this disorder can be found in many of the almshouses, particularly, and in the government soldiers' homes, and they are frequently admitted under the mistaken diagnosis of senile dementia. Regardless of where or when found, whether in an insane asylum or in their homes, they always form a disgusting, but nevertheless pitiable, chapter in the phenomena of sexual excess. These are the men who, at 80 years of age, marry girls of 16. They also become the easy prey of designing women who are not 16. The legal documents which they sign, especially when they attempt to divide their property, are often biased by influences that have back of them a perverted mind made so by a diseased prostate. Two celebrated cases which occurred in this country within the last two years, are in this class. I am assured by those in a position to know that both of these men suffered from the delusional sexual irritation which is characteristic of this condition in a certain as yet unknown percentage of those suffering from an enlarged prostate.

To quote partially from my former paper:

> It is possible that a certain proportion of the sexual neurasthenics and sexual perverts may have as an explanation of their mental aberration, a pelvic rather than a brain pathology. Certain it is that an earlier recognition of disease of the prostate and its appendages, with the mental symptoms that may accompany it in the young or old male, would, in a certain proportion of cases, save the pride of the family of the sufferer, and prevent the moral health of the community from being undermined. The local conditions in the prostate seems to set up an irritation which is expressed through the sympathetic and cerebrospinal symptoms; and out of this will grow visions and mental vagaries until the old man becomes a prey to all sorts of phantasms that finally make his life a mere sexual fetish. Before a diagnosis of sexual neurasthenia or of senile dementia is assumed to be the final word, the possibility of prostatic disease should be eliminated, and if this is found, especially the large hypertrophied gland, its excision will show in a large proportion of the cases that the problem was a surgical rather than a neurologic one.

The symptoms so briefly enumerated above have back of them as yet an undescribed pathology. It would seem to me, however, that the tardy recognition of the thyroid as a cause of certain classical symptoms was to be paralleled when those of phrenitis prostatica were referred to their proper origin. The microscopic anatomy of a gland does not show its vital relationship either to other glands, or to the general economy. This is true of the thyroid, and I believe it to be true, also, of the prostate. No work that I am familiar with has attributed to the prostate an extra, or an internal, secretion; and yet, in ten out of the twenty-five cases 40 per cent. on which the studies in this paper are based, the patients had large, juicy prostates. In addition to this, all of the 10 had thick capsules, making their removal by the perineal route comparatively easy. The youngest of these ten patients was 63; the oldest, 75.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.

[1] Tr. Western Surg. and Gynec. Assn., 1907; Illinois Med. Jour., November, 1908.

Shäfer has shown that the cortex of the suprarenals is probably a separate secreting gland tissue which may have a close relation to the sexual organs and to the pigments of the skin. Whether the changes incident to the enlarging of the prostate during the sunset period of life in the male augment or inhibit an unknown secretion, is difficult to say. Whether the hypertrophy destroys, as is evident in some cases of thyroid (colloid) enlargement, or whether it increases this assumed internal secretion, is unknown. As is well known, however, the feeding of thyroid extract in certain hypertrophies of the thyroid stops the symptoms of excessive blood-pressure (uninhibited suprarenalism), which coexist with this form of disease in some cases. It is not difficult to assume that some such problem as this may be back of the symptoms described in the title of this paper.

"The thousand-mouthed succulent prostate," as Keyes has well named it, makes the problem of separating the various secretions that enter into the seminal fluid an extremely perplexing one. I have had under way investigations that, it is to be hoped, will aid in the elucidation of this subject. It is possible that these investigations will show that the seminal vesicles have a realm of function that will suggest the suprarenals when the kidney is considered, or even the parathyroids when the thyroid is studied. Glands are the highly differentiated islands of the body, where the physical and psychic life come in touch with vital processes through the streams of nerves and vessels. The prostate is the sexual solar system. In the young man, when the functions of this gland or its environs become perverted from an infection or a neurosis, we have many times what Casper has termed sexual neurasthenia. When this irritation becomes pathologic to the degree found in hypertrophy of the prostate, we have a distinct and heretofore undescribed diseased condition of the mind that merits the title given it above. This condition, which is not senile dementia, is cured by excision of the prostate. Sexual neurasthenia, as it is found in those who are not old, usually has back of it some form of genito-urinary infection; while the senile hypertrophied prostate as a rule, gives no evidence of infection except in the occasional case in which the seminal vesicles contain pus not unlike the sealed tubes found in women suffering from salpingitis. The sexual neurasthenic, the young sexual pervert, adolescent sexual precociousness, and the senile sufferer from phrenitis prostatica, however, may be affected with one and the same thing, one condition being but a varying degree of the other; any one, or all of them, merely serving as a pelvic electric button which, depending on the stage of life in which the trouble manifests itself, merely serves to ring up the psychic life of the sufferer in various ways along the line of diminished sexual balance.

In closing, permit me the following word of argument. If the removal of postnasal adenoids can transform the mental, moral and physical life of a child from the abnormal to the normal, is it beyond argument that the removal of the prostate at the other extreme of life will not produce the same good results? Embryologically, adenoids are but an aberrant branch of the nervous apparatus, and the same primitive findings regarding the prostate place it, according to Walker, as a part of the sexual system. Remembering this, we need not be surprised that adenoids, when present, give rise to characteristic mental conditions, or that the hypertrophied prostate may cause a train of disgusting mental phenomena that also can be removed by well-applied surgery.

Whether *phrenitis prostatica* is due to an over supply or an undersupply of an as yet unknown internal prostatic secretion; whether it is merely an obstruction, developing mental symptoms by irritation and pressure of the nervous supply to the gland itself; or, whether the prostate, with its assumed internal secretion, is thrown out of rhythm with some other gland by the hypertrophy; whether this "other" tissue is the cortex of the adrenals, which some laboratory workers have shown to be hypertrophied in the lower animals possessing extraordinary sexual development, and "atrophied when the sexual power was low;" or, "whether it is due to some abnormality in the involution of the sexual organs"; or, whether, after all, the trouble is a central one following loss of control by the brain of the immoral impulses of our bodies, I do not know. But I do know that excision of the hypertrophied prostate, in the presence of the mental symptoms above described, will restore the unfortunate possessor of them to health.

ABSTRACT OF DISCUSSION

Dr. Harold N. Moyer, Chicago: The province of the Section on Nervous and Mental Diseases has been seriously invaded by the two papers on the program of the Section on Surgery, one proposing the cure of mental troubles by the removal of the prostate and the other proposing the cure of dementia præcox by removal of the thyroid. It is not questioned that the diseased prostate may cause symptoms such as Dr. Percy described and that these symptoms will in large measure be removed by removing the prostate. Unfortunately it leads into a rather discreditable chapter in the domain of surgery, in which surgeons have cut off and cut out for the cure of nervous disorders.

I would criticize Dr. Percy's paper in many particulars; in the first place, the title of the paper, "Phrenitis Prostatica," inflammation of the mind due to the prostate. The term "phrenitis" has not been used by an alienist for seventy-five years. Dr. Percy means a certain collection of mental symptoms that have their origin in the prostate, and are undoubtedly reflex in character. Some of the arguments he advanced, I believe, are not sound, although his conclusions are sound. In the cases of sexual perversion, or those in which there exists the *symptom-complex described, one should not* at once excise the prostate and expect to effect a cure. One should wait a few days to be sure that the prostate is diseased, because if it is healthy it will do no good to take it out. Next, one should consider if there is no other treatment for the diseased prostate but excision, or if there is any such thing as a stricture at the membranous urethra, granulation tissue in the sinus pocularis, and other things that might be responsible for the trouble and that can be relieved very greatly, at least, by some means other than removal of the prostate gland.

I think, however, that the paper is a lesson for the surgeon as well as for the neurologist. The surgeon should know that certain things may come from the diseased prostate originally, although in exceptional cases, and for the neurologist to know that he is apt to neglect some things on the physical side of the case. No neurologist should attempt to treat sexual perversion or neurasthenia when symptoms point to the genital tract without an examination of that tract. The two things are often inextricably mixed, so that sometimes we have a strong prostate overcoming a weak brain, although if the brain is sound it will usually take care of the diseased prostate.

DR. J. F. PERCY, Galesburg, Ill.: I am sure that every practitioner of experience has encountered these cases, and it is possible that you will meet with more of them now since your attention has been called to this factor. If phrenitis prostatica does not quite answer in the way of nomenclature, will not Dr. Moyer give a term that is just right? I have tried to get a term that seemed more correct than "phrenitis prostatica," but a friend, an eminent Greek scholar, after reading my paper, gave me this title, with the assurance that it was entirely correct.

REPORT OF THE COMMITTEE FOR THE STUDY OF THE RELATION OF TUBERCULOSIS TO DISEASES OF THE EYE*

WILLIAM H. WILDER, M.D.
Chairman of the Committee
CHICAGO

This committee was formed for the purpose of studying in a cooperative way the relation of tuberculosis to certain diseases of the eye, the etiology of which is often obscure.

As was stated in the preliminary report, it was thought that a number of observers might accumulate enough data to draw conclusions that might not be warranted by the limited observations of a single individual.

Those who were interested in this work agreed to study their cases according to a plan that was prearranged, and to keep records on blanks prepared for the purpose, so as to facilitate compilation.

This plan of study contemplated a thorough physical examination of the body to determine, if possible, the etiology of the eye disease. If, in this examination, no reasonable etiology could be determined, other than that the patient gave evidence of having either active or quiescent tuberculosis in some part of the body, it would be strong presumptive evidence that tuberculosis played some rôle in the causation of the eye disease.

Unfortunately, it is difficult to control clinic and dispensary patients as one would like; and it is also difficult to exclude syphilis, blood conditions, autointoxications and other factors, in order to get perfectly definite results in such a problem. But if we can place any reliance in the tests that have been proposed by Koch, Wolff-Eisner, Pirquet and Calmette, it is not difficult to determine whether or not a person is tuberculous, even in the absence of well-defined physical signs.

It is one thing, however, to show that an individual is tuberculous and quite another to prove that the lesion of the eye that he has is tuberculous; and yet, while there may be lacking the positive proof, the presumptive evidence may be strong.

Such is the case when, in addition to the general reaction from the subcutaneous injection of tuberculin, there appears a reaction in the affected eye, manifested by a conjunctival or ciliary injection or an aggravation of the original trouble. This has been done in many cases, when feasible; in many of them we had to rely on the physical examination or the simpler cutaneous test of Pirquet.

There has been a growing distrust and fear among ophthalmologists of the use of the conjunctival test, proposed by Wolff-Eisner and Calmette, that I think is not altogether well founded.

Most of the members declined to make use of the Calmette test in this study, because they consider it dangerous. It is true that certain ill effects from the use of tuberculin in this way have been observed, and the alarm has been sounded by several oculists of note, but I am inclined to think the reason for the bad results is that the solution has been used too strong at first. It is as necessary to know just what strength one may use with safety in the conjunctiva as it is to know what dose one may safely administer subcutaneously.

Within the past year I have made observations in a number of cases of eye disease that I had reason to believe were tuberculous in nature, and found that not only did the patients tolerate tuberculin administered in the eye in small doses, gradually increased, but they actually improved as I approached the dose that would excite a mild reaction. To be on the safe side, the first dose would be 1/1000 mg., gradually increased until in some cases 1/10 mg. would be employed, a dose nearly equal to that ordinarily employed in the Calmette test.

These cases will be made the subject of a personal communication later, after further observation and study.

The following members of the committee have submitted records of cases that are included in this report: Drs. George S. Derby (Boston), Charles Stedman Bull, Arnold Knapp (New York), W. C. Posey, George E. de Schweinitz (Philadelphia), Harry Friedenwald (Baltimore), L. W. Dean (Iowa City), and W. H. Wilder.

For various reasons, other members of the committee were prevented from engaging in the work, so that the showing is not so large as we had hoped to have it, but altogether we have 144 cases to report that have been studied with a view to determining whether tuberculosis played any rôle in the etiology. These cases have been classified as follows:

Blepharitis	3
Dacryocystitis	2
Follicular conjunctivitis	5
Phlyctenular disease of conjunctiva and cornea	12
Scrofulous pannus	
Keratitis (deep and nodular)	
Interstitial keratitis	18
Episcleritis	4
Scleritis	3
Sclero-keratitis	22
Chronic iritis	3
Chronic iridocyclitis	7
Uveitis	6
Chorioiditis	5
Chorioretinitis	3
Total	144

BLEPHARITIS

BULL: CASE 1.—Boy, aged 4; in upper right lid a small nodule appeared, which increased in size to that of a small pea and became red and painful; no enlarged glands; lungs and other parts normal. Von Pirquet test negative after three trials. Subcutaneous test, decided general reaction; temperature 100.4 F.; no local reaction.

CASE 2.—Girl, aged 15, had a small nodule in middle of lower right lid that extended into conjunctiva, ulcerated and bled easily. Von Pirquet test negative; subcutaneous test positive. Temperature 100.2 F.

These cases were regarded as tuberculosis of the lid.

WILDER: Girl, aged 6, with blepharitis ulcerosa. Tonsils enlarged, adenoids present, superficial lymph glands enlarged. Reason to believe that child was tuberculous, but three v. Pirquet tests negative.

DACRYOCYSTITIS

WILDER: CASE 1.—F., aged 19; fistula in tear sac. Lymphadenopathy. Marked reaction to v. Pirquet test.

CASE 2.—F., aged 9; chronic dacryocystitis; appears tuberculous. Pulmonary examination negative. Three v. Pirquet tests negative.

FOLLICULAR CONJUNCTIVITIS

WILDER: Five patients, ranging in age from 1½ to 15 years. In all these cases perceptibly enlarged lymphatic glands. In all pulmonary examination negative; v. Pirquet test positive in three and negative in 2.

PHLYCTENULAR CONJUNCTIVITIS AND KERATITIS

DERBY: Eleven patients, 9 under 14 years of age, 1, 28 and 1, 30. In 8 unmistakable clinical signs of tuberculosis; 5 of the lungs, 1 of the spine, 1 of the knee and spine, and 1 of the cutaneous test, 5 mg.; temperature, 101.8 F.; positive; no reaction in eye.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

de Schweinitz: Girl, with form of retinal disease, with extensive exudate, simulating tuberculous disease; subcutaneous test negative.

Wilder: Female, aged 18, failure of vision of both eyes at age of twelve; fair health; no evidence of syphilis; chorioretinitis in each eye; media normal. R. V. = 10/200; L. V. = 5/200. Von Pirquet test three times negative.

Summary.—Six cases of chorioiditis, in 4 of which subcutaneous test gave a positive general reaction, with local reaction in the eye in 2. Two cases of retinitis or chorioretinitis, in which tuberculin tests were negative.

In trying to arrive at some definite conclusions as to etiology in a group of cases like the foregoing, one should consider carefully the relative value of the means and tests employed in the examination of such cases. If active tuberculosis is present or has been present in lungs, joints or bones, sufficient to cause any marked changes, the condition may be discovered with all reasonable probability by careful physical examination. But if from 90 to 98 per cent. of all persons who have reached 60 years of age have been at some time infected with tuberculosis, as is claimed, then very many have suffered so slightly as not to present signs of the disease that can be determined during life by our methods of physical examination.

If from 90 to 95 per cent. of all persons who have passed the adolescent period of life will respond actively to the sensitive cutaneous test of v. Pirquet, as is claimed, it helps to confirm the statements of the pathologists as to the ubiquitous nature of the disease. This being so, in a given case of eye disease, one could place little reliance on this test as determining the actual etiology of the eye lesion without first positively excluding all other factors, and this is not always possible.

The same criticism would apply to the Calmette test which, on account of its danger in diseased conditions of the eye, one would hesitate to use for ophthalmic diagnosis, even if one eye were sound. Response to this test might prove, as is claimed, the existence of active tuberculosis in some part of the body, but would not necessarily determine the nature of the eye lesion.

In the test by subcutaneous injection of tuberculin, the same difficulties are encountered. A general reaction following this test would only prove that the individual is tuberculous (excluding syphilis, leprosy, actinomycosis), which might be done by the simpler v. Pirquet or Calmette test. If, however, a local reaction in the diseased eye occurs, manifested by ciliary injection, conjunctival redness, or marked aggravation of the previous condition, we have strong presumptive evidence that the lesion in the eye is tuberculous. But the eye may be so inflamed as to prevent us from observing whether or not there is increased reaction, so that the test, if made, should be made when the eye is in a comparatively quiet condition.

Again, this raises the important question whether such structures as the cornea, sclera and uvea may not be thrown into a diseased condition by the toxic substances from the bacilli in a distant focus of tuberculosis, reaching them through the blood and lymph channels, without the presence of the micro-organisms themselves in any part of the eye. This being the case, might we expect a local reaction in the eye, even if we encountered a general reaction with the subcutaneous test?

An interesting feature of this series of cases is the frequency of association of tuberculosis in some part of the body with eye conditions, such as phlyctenulosis, deep and interstitial keratitis (non-syphilitic), and sclerokeratitis, and the frequency of local reaction in the eye in such cases, with the use of the subcutaneous test.

In 59 cases of keratitis, episcleritis, scleritis and sclerokeratitis, 56 gave positive evidence of being tuberculous, either by physical examination or tuberculin tests. In 27 of these cases subcutaneous tests were made, and of these 22 were positive as to local reaction in the eye.

If it were possible to study all such cases that appear in a year or two in several large clinics or eye hospitals, we might arrive at some instructive conclusions as to the frequency of tuberculosis as a cause of such diseases.

ABSTRACT OF DISCUSSION

Dr. John Green, Jr., St. Louis: I observed that, under the heading "keratitis," reference is made to "nodular" keratitis, "nodular" infiltrates, etc. In the summary, Dr. Wilder speaks of twelve cases of "nodular" keratitis, in which eleven showed evidence of tuberculosis. It seems to me that the term, "nodular," in connection with tuberculous corneal opacity, should be abandoned, in view of the fact that "nodular," qualifying "keratitis" or "opacity of the cornea," has come to possess a very definite clinical significance. Groenouw has used the term "nodular" in describing a peculiar chronic affection of the cornea, characterized by the presence of discrete subepithelial masses in the central portion of the cornea, and the term has been applied by subsequent writers in describing this condition. The disease is extremely rare, there being less than fifty cases in the literature, and in less than ten of these has there been found any evidence of tuberculous origin. Confusion is bound to arise if cases such as are described in the report, which bear no relation to "nodular" keratitis or to "nodular" opacity of the cornea, are nevertheless designated as "nodular."

A CASE OF EPISTAXIS

Dr. EDMUND R. BLAAUW
BUFFALO, N. Y.

The article about epistaxis in The Journal, April 30, induces me to relate the following case:

On March 25 a 19-year-old boy consulted me for very severe headache. About two weeks previously he had influenza and four days previously his head began to pain him, so that sleep was impossible; his nose began to run at the same time. Percussion on the left frontal sinus was painful; also pressure in the left upper inner orbital corner. The left middle turbinate was swollen and, after depletion by cocain and epinephrin (adrenalin), pus came from below and above the turbinate. My diagnosis was left frontal sinusitis and ethmoiditis. The symptoms had not improved markedly the next day, so I removed the middle concha. No abnormality was noticed, the headache was controlled, and packing removed the following week. Eight days after the operation slight nosebleed occurred, but the cotton plug soaked in hydrogen peroxid solution stopped it entirely. Three days later all packing was removed, and the patient told to keep quiet. In the night of April 6 the patient suffered from a profuse hemorrhage. His family physician and a colleague gave atropin subcutaneously, but were unable to control the bleeding, even after tamponing the posterior nares. On my arrival I found the amount of blood lost considerable, and becoming alarming. I removed the posterior tampon as it only caused irritation and the place from which the bleeding came was in the anterior part of the nostril. But plugs soaked in hydrogen peroxid had no effect; epinephrin had been used before without success. No drugstores were open during that night. The only calcium preparation at hand was calcium chlorid, which we gave liberally. The only effective means proved to be keeping the patient as quiet as possible and plugging the nostrils with ordinary non-absorbent cotton, which contains fat (suggestion by Dr. Hengerer), soaked in mercuric chlorid solution. Dr. Scott Renner, who was asked to come, found the bleeding stopped and ordered morphin subcutaneously.

The patient was transferred to the hospital early in the morning, and made a good recovery, so that four days later all plugs were removed; the patient was kept in bed thirty-six hours afterward; a new hemorrhage started, without a known cause, and the patient lost about one liter of blood before I could reach him. Tampons with a solution prescribed by Dr. Renner (equal parts of antipyrin, 10 per cent. aqueous solution, and tannic acid, 10 per cent. spirituous solution) proved successful. The patient left the hospital three weeks after the first severe nightly hemorrhage. We have given him calcium lactate, which has been recommended for adenoid operations and tonsillectomy, and which, in the cases in which I have used it, seemed to make the blood more coagulable and the bleeding less abundant.

A remedy which was not used in this case, but which I find advocated by Dr. R. Lenzmann* is serum, as this contains the substances which bring on the coagulation. As plain serum cannot be had generally, antitoxin serum should be used with as low a quantity of "units" as possible.

This kind of nosebleed is due to an opening of an artery; it is therefore clear that epinephrin will do harm by raising the pressure in the smaller peripheral arteries and capillaries.

327 Franklin Street.

HYPEREMIA TREATMENT IN INFECTIONS OF THE BREAST

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A previous communication[1] was devoted to the use of hyperemia as applied to the various forms of infection, such as boils, carbuncles, bone-felons, etc., usually seen in a surgical dispensary. Since that time this method of treatment has been continued along the same lines and with the same uniform success. But perhaps the most striking and gratifying results have been obtained in infections of the breast, and it is these that I wish to report now.

All grades of infections were treated, ranging from those of such severity that the patient was almost prostrated, down to the simple, but at times painful, caked breasts. Indeed, several patients were truly fit subjects for the hospital, but their absolute refusal to avail themselves of the privilege of the wards compelled us to treat them in the out-patient department.

The routine treatment is about as follows: When the patient is seen early in the disease and pus formation has not occurred, cupping is at once instituted for from fifteen to forty-five minutes daily, the breast between treatments being put up in a wet boric dressing, and nursing from it stopped. Abscess formation can frequently be prevented in such cases.

Unfortunately, however, most patients do *not* present themselves until an abscess has already formed and not infrequently ruptured. Wide incision is practiced in such cases, the patient being under ether or nitrous oxid. All pockets of pus are broken up with the finger and where necessary counter-radial incisions are made, followed by through-and-through drainage for twenty-four hours, with iodoform gauze. This is contrary to the usual rules of hyperemia treatment, in which drains are dispensed with, but the hemorrhage is rather profuse following incision, and, inasmuch as all our patients are ambulant, we have packed, more to avoid postoperative bleeding than for anything else.

In one or two instances I have used the cup immediately after the operation and with the patient still on the table, but in the severe cases this caused a considerable loss of blood and so much discomfort to the patient that now hyperemia is not instituted until twenty-four hours later.

At this time, with the drain still *in situ,* a cup at least 1 cm. larger than the entire breast is applied. A very moderate degree of suction is at first used—that is, a degree that causes no pain, only a slight blushing of the skin and very little bleeding. This is continued for about five minutes, then the cup is removed and the breast allowed to rest for about two minutes, following which the cup is again applied. This alternate cupping and resting is kept up until actual hypermia has been instituted for about fifteen to forty-five minutes, varying according to the condition of the patient, the condition of the breast, the pain and the bleeding, which is apt to be rather free at the first treatment.

The drains are usually firmly adherent at first, but if they are left in place during two or three cuppings, they become loosened by the flow of pus, milk and blood, and are then very easily removed, when the treatment is resumed. In cases in which they do not come away without much pain they are left until the following day.

It sometimes happens that the very large cup does not draw away the pus. In such instances the application of a small cup for a few minutes will have the desired effect, although if it is judiciously applied, severe pain may be caused. At the end of the treatment, a strip of wet boric gauze is loosely tucked in the mouth of the wound—simply to prevent closure—and the whole breast is put up in wet boric gauze, over which is placed a very loose bandage, thus allowing the breast to hang low, so that drainage by gravity will occur. The patient is now treated every day, occasionally twice a day, every two or three days, then every four or five days, until the process is healed.

It will thus be seen that this treatment differs in several respects from the rules laid down by Bier and his followers in the handling of these cases. Where they advise a small incision, we open widely. The small puncture is effective in the superficial abscesses, but in the deep, we have found that unless a generous incision is made, followed by breaking into all the pockets, and occasionally counter-incisions, one or more secondary operations are liable to become necessary.

Where the puncture wound is practiced the pack is unnecessary. Its use is self-evident, however, in the more radical operation, and we have discovered, much to our embarrassment, that the continued use of a loose pack just in the mouth of the wound is advisable.

In the old method of handling abscesses of the breast, tight bandaging was thought essential—in order to prevent milk-formation. Our patients have all been much more comfortable and we have had far better drainage since the loose bandage has been used, the breast being allowed to hang free. But aside from this, we believe it wise to continue the lactation, and as the cup aids in this, several (four) of our patients have been able to resume nursing on the affected breast after its restoration. No ill effects have resulted from this procedure, either to the child or to the mother, and we consider it an advantage, rather than a disadvantage.

When patients have been treated outside and have come in with a persistent sinus, the sinus has been laid open and packed twenty-four hours, following which the usual treatment has been instituted.

Lack of space prevents the publishing of individual case reports. It must, therefore, suffice to say that in the fifteen cases in which hyperemia has been used, the average duration of the disease, or rather the average duration of the infection, has been 19 1/3 days. The average number of treatments (cuppings) has been 7 1/5. Thirteen of the cases were in nursing mothers and four of these were able to resume nursing on the epithelium manufactured to take its place, provided the burn has not been deep enough to destroy all the epithelial cells in the hair follicles and glands of the skin. The exudate thrown out into the tissues and on the surface of a burn furnishes food for the development of new epithelial cells. It also furnishes a fertile field for microbic development.

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*Lenzmann, Richard: Die Leben gefährende Krankheitszüstande, Ed. 2, 1909, p. 131.

[1] Bernheim, B. M.: Passive Hyperemia by Means of the Cupping-Glass of Bier and Klapp, THE JOURNAL A. M. A., March 14, 1908, p. 840.

If the exposed surface of a burn becomes infected and suppurates there will be scar-tissue, contractions and deformity as a result. Scar-tissue continues to form as long as there is a denuded surface with any form of irritation. Therefore the amount of scar depends on the extent of the burn and the time required in forming a new epidermis.

A degree of heat sufficient to destroy living tissue will also destroy pus-producing germs. So in burns which become septic the infection almost invariably comes from without or extends from the margins of the wound. The surface of a burn does not absorb easily. Its tendency is to exude. But later in the course of a burn severe enough to devitalize the tissue decomposition takes place and toxins are formed, some of which will be absorbed.

There are four things to demand attention in the successful treatment of burns, any one or all of which may be required in a given case; first, to combat shock if it exists; second, to relieve pain and nervous excitability; third, to prevent infection and to protect exposed living tissue; and fourth, to assist Nature in her work of repair.

1. Shock, which often occurs as a result of severe burns, is treated on general principles too well known to the profession to be discussed in this paper. Some one has said, "Shock is shock," meaning that regardless of its cause, shock must be treated in the same manner under all conditions.

2. To relieve pain and nervous excitability, it is usually necessary to give a hypodermic injection of morphin and atropin and then to immerse the burned area, if it be on an extremity, in cold water to which has been added a tablespoonful of bicarbonate or chlorid of sodium to the gallon. It is not necessary for the water to be ice-cold. A temperature of from 50 to 60 F. is preferable.

If the burned area cannot be immersed in water on account of its location it may be covered with a light smooth cloth which has been dipped in the solution; then by gently and continuously mopping this cloth the same result will be obtained.

This water-bath may be continued for some time or until the systemic effect of the morphin is manifest.

In institutions where trained assistants are always at hand the whole bath may be used and continued for many days if a large area of the surface of the body is burned.

3. Protection of the tissues and prevention of infection demands our greatest efforts and must be kept in mind from the beginning. Nature puts forth her greatest efforts, and the system will exhaust its entire resources to accomplish this end; but Nature cannot prevent the invasion of pus-producing micro-organisms—the surgeon can.

I wish here to condemn two things often done, and at least sanctioned by most of our text-books: first, puncturing blisters immediately after a burn and second, the use of carron oil and other remedies of its kind as a protecting dressing.

A blister is a non-irritating protection to the delicate underlying structures, and the surgeon can furnish none better. I have never known the raised epidermis to reunite with its base after the blister was punctured. In most cases it acts as an irritant and for several days following it causes serum to be poured out under the dressings to soil them and furnish a good culture-medium for any possible pus-producing germs which may be barricaded waiting for an opportunity to assert themselves.

Within a few days the epithelial cells in the deep glands of the skin will have accomplished their work of repair if properly protected by the blister.

If any blisters are accidentally burst with the epidermis rolled up or displaced to any degree, such epidermis should be treated as so much débris and at once removed.

We long since discarded the once popular idea that the most favorable symptom appearing in the course of any wound was the free flow of pus. With that theory any agent which hastened suppuration was the most plausible remedy for a burn. Balsams, oils and poultices were used. The last one of such remedies to be discarded by rational ideas is still mentioned and advised by some of our modern text-books, especially works on practical therapeutics, namely, carron oil (equal parts of lime-water and linseed oil). In my opinion this remedy has to its credit more unsightly scars and disfiguring contractions than all other empiric remedies combined; with all of its kind it should have been discarded many years ago and buried with the theory which prompted its use. I consider the following the ideal method of protecting the tissues and preventing infection.

When the patient is fairly comfortable the bath may be discontinued, and the burned area with the surrounding surface sprayed or mopped with peroxid of hydrogen. The entire surface should then be mopped dry with gauze. Then strips of gauze which have been previously soaked in the following solution should be applied over the entire area.

℞	gm. or c.c.		
Picric acid	4		ʒi
Alcohol	64	or	℥ii
Water	72		O.iss

Over this a thin layer of cotton should be applied. The dressings should be kept in position by loosely applied adhesive strips or a roller bandage. This dressing soon dries and may remain for several days, or until it becomes soiled; at which time remove all soiled or wet dressings, spray with peroxid, mop dry and reapply fresh gauze soaked in the picric acid solution.

After the third day the larger blisters should be opened and the fluid contents mopped away and fresh dressings applied. This treatment is applicable to all burns whose severity is not great enough to cause sloughing.

If sloughing does occur as a result of charred tissue or later as a result of infection, the dead tissue should be removed as rapidly as it becomes separated, and the underlying exposed surface sprayed with peroxid, and mopped with the picric acid solution; over this should be applied small strips of rubber tissue which have previously been soaked in 1:1000 bichlorid solution. The dressing should be finished as before suggested.

The picric acid solution, by its slight astringent action, limits the exudation of serum by constricting the congested superficial capillaries, and does not interfere with the development of new epithelium. Its germicidal action prevents infection, and in my hands has never produced any systemic toxic effect.

The rubber-tissue strips furnish a non-irritating covering to the denuded surface, and do not interfere with granulation in their removal. If the rubber tissue is applied in narrow strips, the edges being allowed to overlap, the dressing more perfectly conforms to the irregularities of the surface. This dressing should be changed as often as it is necessary to keep the surface clean and free from pus.

The treatment above outlined, allowing modifications in each individual case, is one which I consider most nearly ideal after ten years' experience in mining camps, dealing with every degree of this most common accident, from a slight scald to that produced by the most terrific mine explosions.

I have said nothing in this paper about the later complications and sequelæ, such as contractions, abscess formation, duodenal ulcers and those extensive burns demanding skin-grafting.

The object of this paper will have been attained if I have made clear the importance of treating all burns as wounds, and on a surgical basis, and that the prevention of infection and suppuration is by far the most important part of the treatment.

Therapeutics

PULMONARY TUBERCULOSIS TREATED IN HOME SANATORIA

The Medical Board of the Gaylord Farm Sanatorium, located at Wallingford, Connecticut, has just presented its annual report, and there is so much of general interest that it seems worth while to comment on it. This sanatorium is a state institution, supported by state funds and private charity. Most of the patients pay a small fee, but there is a weekly deficit for every patient treated. This institution has a capacity for 65 patients, and has just completed its sixth year of existence. It is located three miles from the small city of Wallingford, and fifteen miles from the city of New Haven, and from twelve to fifteen miles from Long Island Sound. It is situated on a hill not more than 400 feet above sea level, and has connected with it a large farm from which part of the produce, eggs, milk and poultry are furnished to the sanatorium.

The total number of patients under treatment during the last year was 166, the average number of patients under treatment at one time being 59. These patients came from all parts of the state of Connecticut, represented 15 nationalities, and came from 50 different occupations. Sixty-two of these patients remained at the sanatorium less than three months; of these 50 left the institution distinctly improved; in one the disease had progressed, and one died of acute pulmonary tuberculosis. One hundred and four patients remained at the Institution more than three months, the average stay being 161 days. Twenty-three of these patients who remained at the institution more than three months had the disease in its incipiency, and 21 of them were discharged with the disease arrested, 1 improved, and in 1 the disease was progressive. This result distinctly shows the advantage of early treatment of pulmonary tuberculosis in sanatoria. Seventy-five patients had the disease moderately advanced, of these 51 were discharged with the disease arrested, 11 had improved, in 11 the disease was progressive, and 2 died. Of 6 patients who had the disease far advanced, in 2 the disease was arrested, 2 improved, and 2 failed. Of the 104 patients who remained at the institution more than three months (incipient, moderately advanced, and far advanced), 74 or 71 per cent. of all, nearly three-fourths, were discharged with the disease arrested, and 14 more were distinctly improved. This is a record that is astonishing when not long since it was considered that patients with this disease must go to climates far better than southern New England before they could improve.

Ninety of the 104 patients who remained in the institution more than three months gained, on an average, 17.7 pounds as against 16.3 pounds in 1909 and 15.2 pounds in 1908. This is especially worthy of comment, as during the last eight months the patients had received no raw eggs, and have had no meat or eggs for breakfast, and the average consumption of milk has been a quart and a half pint daily. This gain is above the average of eight other leading sanatoriums, their average being 13.4 pounds, and the highest shown by any of them being 15.1 pounds.

From the very opening of this institution the medical board and the medical superintendent were a unit in believing that forced feeding in tuberculosis was a mistake. The over-working of organs and tissues to take care of enormous amounts of nutrition because one or two organs were diseased would seem an economic and physical mistake if it was not an actual physiologic error. Consequently good, nutritious food, but not forced feeding has been the character of the diet at this institution from its opening day, and Dr. David R. Lyman, the medical superintendent, has this year well demonstrated that even in earlier years the patients received too much food. The object is to furnish enough of each particular nutriment that is necessary to promote health, increase the weight of the patient, and to have a sound mind in, as far as possible, a sound body. Enormous amounts of food cloud the mental faculties and irritate and finally stagnate the functions of the body.

Since the institution was opened, 513 patients have been discharged prior to Jan. 1, 1910. Accurate information has been obtained concerning all but 17 of these patients. Up to Jan. 1, 1910, 105 patients who had the disease in its incipiency had left the institution. Of these 91, or 87 per cent. still have the disease arrested. Of the 293 patients who had the disease moderately advanced, 177, or 61 per cent. still have the disease arrested. Of 111 patients who had the disease far advanced, 16, or 15 per cent. still have the disease arrested.

These statistical results positively demonstrate that patients suffering from tuberculosis can have the disease well arrested and have it remain arrested, and perhaps be permanently cured, in the region, or at least in the climate to which they are accustomed. This is emphatically true if the patient, after the disease is arrested, is to remain and work in the locality where he acquired the tuberculosis.

Dr. Lyman is accumulating statistics which in a few years will be of great value in proving to the world what he has already proved to the medical board of this institution, viz., that patients who have the disease arrested thrive better, remain well longer, and are more permanently cured if they return to the occupations from which they came, *i. e.*, to the occupations to which they are used, and do not seek, under mistaken advice, some out-door work that is physically a hardship and generally causes them to work more hours, and for which the wage is inferior to inside shop, store, factory or office work.

The points of this report for practical application are:

1. Early diagnosis of pulmonary tuberculosis.
2. Treatment in nearby sanatoria when possible.
3. A sensible diet and no forced feeding.
4. The stay at the sanatorium should be long enough to arrest the disease thoroughly.
5. Unless some particular unfavorable conditions should prevent, the patient should be returned to the occupation to which he is used.

VALUE OF DRUGS NOT NOW OFFICIAL

This is a subject now timely for active discussion, as, soon, the Committee on Revision of the United States Pharmacopeia must decide which new drugs are of sufficient therapeutic value to claim recognition in the Pharmacopeia of 1910.

Prof. H. C. Wood, Jr., of Philadelphia, in a paper recently read in Washington, presents the subject in such a terse manner for general discussion that his own abstract of his paper is here presented. Dr. Wood says:

Progress in materia medica does not consist merely in changing our drugs; we must improve them as well. There is no reason for abandoning old and tried remedies for new substitutes unless there is some definite evidence that the new remedy possesses more power or is free from some objection of the older one. For instance, in the series of coal-tar anodynes we have had brought to the attention of the profession a large number of synthetic compounds even in the single group of the phenetidin derivatives of which we have a representative in the Pharmacopeia in acetphenetidin. It is beyond comprehension how substituting for the acetyl radical that of some other organic acid can alter the therapeutic properties of the compound and yet the manufacturers have burdened our literature, to say nothing of the druggist's shelves, with lactylphenetidin, citrylphenetidin, salicylphenetidin, and so on. There is no satisfactory evidence that any of these can accomplish more than the official representatives of the series or that they are less dangerous in their secondary effects.

SEDATIVES

The drugs that are used to quiet cerebral excitement may be divided into two classes, those which are used to allay nervousness and those which are employed for the purpose of promoting sleep. Under the first head are two groups of substances, the derivatives of valeryl and various compounds of bromin. The pharmacologist can recognize no effect on the system by the valerates and the clinical evidence of their value is at least questionable. Of the substitutes for the bromids, the chief advantage that is claimed is that they are less likely to give rise to gastric disturbances. The irritation of the stomach by inorganic bromids is generally due to faulty administration and it is a matter of much doubt whether there is a necessity for any of the organic combinations in which bromin is the active ingredient.

SOMNIFACIENTS

The new hypnotics have come to be almost as numerous as the coal-tar anodynes. Three of them have been sufficiently tested to merit consideration. These are veronal, bromural, and isopral. The study of the relative value of these drugs necessitates an understanding of the chemical composition of hypnotic remedies. There are three principal groups of drugs which have the power to promote sleep. These are those belonging to the methane derivatives of which paraldehyd may be taken as a type, those containing an ester of urea and those containing the ethyl-sulphone radical, of which trional is the most popular member. The introduction of a chlorin atom into the molecule of the fatty series greatly increases the narcotic power. This is illustrated, for instance, by the higher activity of chloroform as compared with ether, and of chloral as compared to paraldehyd. At the same time that it increases the narcotic powers of the drug, there is an increase of the depressant action on the circulation, so that while these halogenic compounds are potent, they are likewise dangerous. If we remember that isopral is a trichlor-alcohol of propyl its chemical alliance to chloral (trichloraldehyd of ethyl) becomes apparent. It is also physiologically very similar and although Impens (*Therap. Monatsh.*, Sept. 1903) claimed that it was a safer remedy, the elaborate investigations of Sollmann (The Journal, Aug. 8, 1908, p. 487) and of Hatcher (The Journal, June 1, 1907, p. 1849) show that while it requires smaller doses of isopral to produce sleep, it requires correspondingly smaller doses to kill. There appears, therefore, to be no reason for the introduction of this substance into practical therapeutics.

An interesting group of hypnotics which includes a number of the newer drugs are the carbamic esters, or derivatives of urea. One of these is official, the carbamate of ethyl commonly called urethan. Two drugs of this group, diethylmalonylurea (veronal) and the alphamonobrom-isovalerylurea (bromural) have been used extensively in this country. The official representative of this group, ethyl carbamate, is one of the safest of all the sleep producing drugs. Its effects, however, in comparison to chloral hydrate are relatively feeble, and while in minor degrees of insomnia it is a useful remedy, in the more obstinate types of this condition it generally fails. In the case of veronal the narcotic power of the carbamic radical has been greatly enhanced, but as is so frequently the case, at the expense of its safety. A number of unpleasant symptoms and even serious poisoning by this substance have been reported. Bromural is generally conceded to be less powerful as a somnifacient than veronal and while perhaps useful as a nerve sedative, as a somnifacient does not appear to have any advantage over ethyl carbamate (urethan).

ANALGESICS

Of the central anodynes aside from the coal-tar derivatives, there are certain derivatives of morphin which merit a word of discussion. Generally speaking, the morphin esters differ from morphin itself chiefly in the fact that they have relatively less influence upon the higher cerebral centers. They are therefore greatly inferior as somnifacients or analgesics and also less liable to give rise to narcotic habits, although not entirely free from this danger. While these remedies may perhaps have occasional value as substitutes for morphin in painful conditions, it is necessary in order to produce an even approximate degree of anodyne effect to administer relatively much larger doses than of the natural alkaloid. The chief use of this group is as sedatives to the respiratory center in the treatment of excessive cough, asthma, and other respiratory irritations. The most valuable of them for this purpose is probably the acetyl ester of morphin commonly known as heroin. The advantages of heroin are that it is less likely to give rise to narcomania, that it produces less disturbance of the general health than morphin, and that it is relatively safer. The comparative safety of a drug is not to be judged merely by the quantity required to kill, but by the ratio between the lethal dose and the effective dose. Thus, in the experiments of Impens (*Arch. d. ges. Physiol.*, 1899, lxviii, 527) it was found that if a given weight of dog was killed by 1 grain of morphin although ½ a grain of heroin would kill the same weight of animal, it required but ¼ the dose of heroin to produce the same amount of respiratory sedation as of morphin. In other words, although the heroin was twice as poisonous as morphin, it was twice as safe because the limit between the therapeutic and toxic dose was larger.

LOCAL ANESTHETICS

The introduction of the method of producing anesthesia by injection of local anesthetics into the subarachnoid space, the so-called spinal anesthesia, has stimulated chemists to the invention of a number of compounds which might possess the local anesthetic power of cocain and be free from its objectionable features. Of these local anesthetics there are four which merit consideration. These are eucain, stovain, novocain and tropacocain. The advantages claimed over cocain for each of these are that they are less toxic than cocain; they do not produce vasomotor spasm; they do not affect the pupil or accommodation; and that they may be sterilized by boiling. As the advantages of each of them over cocain are the same, it is evident that the choice between them rests on their relative powers of toxicity. Biberfeld (Quoted by Schley, *New York State Journal of Medicine*, December, 1907) compared the toxic power of cocain, stovain, and novocain, and found that if the fatal dose of cocain be taken as one, that of stovain would be three and of novocain about six. In other words, novocain was one-half as toxic as stovain and only one-sixth as poisonous as cocain. Le Brocq (*British Med. Journal*, 1909, i. 783) has made a study of the comparative value of a number of local anesthetics. As regards their toxicity he ranks them as follows: alypin, 1.25, cocain, 1.00, stovain, 0.63, tropacocain, 0.50, novocain, 0.49 and eucain, 0.41. Stovain he condemns not only on account of its comparative poisonousness but also because it is intensely locally irritant. On the basis of this last quality, local irritation, he gives the preference to novocain over eucain and all others of the group. As for the comparative power on nerve endings while Le Brocq ranked them all as about equal with cocain, except stovain which he asserts is slightly stronger, the general concensus of opinion is that eucain and novocain are distinctly, if slightly, inferior to cocain while stovain is about equal to cocain. According to Harris, a 15 per cent. solution of eucain lactate is about equivalent to a 10 per cent. solution of cocain. It is possible that the clinical inferiority of these remedies as against cocain depend on the fact that not constricting the blood vessels circulation remains active and the drug is carried away from the point at which it is applied. At any rate, it has been shown that the addition of adrenalin not only prolongs the action of these anesthetics but also enhances their power.

DIURETICS

Among the drugs which increase excretion the most interesting are the diuretics of the xanthin series. Of these, caffein is already recognized by the Pharmacopeia. The disadvantages of caffein are its effects on the central nervous system (especially on the cerebrum, producing general nervousness and wakefulness) and its action on the circulation. Owing to the effects on the vasomotor center, the dilatation of the renal blood vessels, which is so closely associated with, if not the cause of, the increased activity of the kidney, is partially antagonized by the general contraction of the blood vessels in which the vessels of the kidney more or less share. For this reason, the diuretic action of caffein is frequently not so great in practical conditions as it is in laboratory experiments on the isolated kidney. The other members of this series have a less marked action on the central nervous system and therefore are less prone to produce wakefulness and also do not contract the blood vessels by vaso-motor stimulation. Of the series, two have been largely employed, theobromin and theophyllin. Theobromin, an alkaloid found in the chocolate bean, has some, but very slight stimulating effect on the brain, and while it increases the rate of the heart, causes almost no change in blood pressure. As a diuretic it is generally held to be superior to caffein chiefly because it can be given so much more freely without danger of undue nervous excitement. Theobromin itself is insoluble in water but becomes soluble in the presence of sodium salicylate or sodium acetate. The latter combination seems less prone to upset the stomach than the combination with sodium salicylate and is probably therefore preferable. Although theophyllin occurs in small amounts in the tea leaf, the supply from this source is so insufficient that it was impractical as a remedy until a means was found to manufacture it artifically. This synthetic theophyllin occurs in the market under the trade name of theocin. The general physiologic action of this substance has not been carefully worked out but is probably similar to that of theobromin.

ARSENICALS

A great deal of interest has recently been aroused in connection with various arsenical derivatives of which an immense number have been prepared by the chemist. The last word concerning these arsenic preparations has not yet been said. A large number of active workers are at present engaged in inventing and testing new organic compounds of arsenic, especially with the idea of determining an antidote to the trypanosome of sleeping sickness and may perhaps some day reach the ideal. In 1907, Drs. Dawes and Jackson (THE JOURNAL, June 22, 1907, p. 2090) made an elaborate study of sodium cacodylate. They found that this remedy had a range of usefulness analogous to that of the inorganic forms of arsenic. The advantages of lessened toxicity as compared with arsenic is more apparent than real because the therapeutic activity of the substance is also correspondingly less. Cacodylic acid and its salts are partially broken up in the system and varying amounts of the inorganic arsenic appear in the organs of the body and in the urine. Under a variety of trade names, such as "atoxyl," and "soamin," the sodium paramidophenylarsenate has been largely used not only in those conditions in which inorganic arsenic preparations are deemed useful but also in syphilis and a number of other conditions. While there is some evidence of its value in these cases, the considerable number of instances of blindness from optic atrophy following its use (*British Med. Jour.*, March 5, 1910; abstract in THE JOURNAL, Apr. 16, 1910, p. 1323) ought to exclude it entirely from our materia medica. There is little evidence that anything can be accomplished by inorganic arsenic that cannot be done with the older forms; but the cacodylates can be given with less danger of irritating the stomach and consequently a larger amount of the metal can be introduced into the system. They are also much better preparations for hypodermic medication.

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SATURDAY, JULY 2, 1910

LENGTHENING THE SPAN OF LIFE

Publication within the past three years of such works as Professor Minot's "Age, Growth and Death" and Metchnikoff's "Prolongation of Life," and their quick acceptance by the general public, are marked manifestations of the interest which is being taken in working out a rationale which shall result in making old age pleasant to itself and profitable to mankind. All men desire long life, but no man desires old age if this means feebleness of mind and inability to work; and since the days of Solomon this has been the common meaning attached to length of days. It has been frequently proved, however, that useful work can be performed by the aged. Only recently Dr. W. A. N. Dorland, of Philadelphia, in a magazine article, made an end of the "forty-year limit" so wilfully misunderstood by the critics of the eminent sponsor for that unfortunate jest. Plato, Goethe, Victor Hugo, Michelangelo, Titian, Franz Hals, to mention only a few illustrious names of the past, accomplished great things for posterity at a time when most of us now living would have been making hurried plans in preparation for eternity.

The average duration of human life has been on the increase for the last three hundred and fifty years. In the seventeenth and eighteenth centuries this increase was about four years per century; in the early part of the nineteenth century it was lengthened to nine years. In Massachusetts life is now lengthening at the rate of fourteen years per century; in Europe about seventeen; and in Prussia twenty-seven. The influence of the great strides in medical science is here quite apparent; for in India, where the application of new methods of preventing and treating disease has been retarded and neglected, the average life-span is now only about twenty-five years and remains stationary.

With this advancing world movement for the ultimate conquest of disease and death, the name of Elie Metchnikoff is indissolubly associated. For more than forty years (he is now sixty-five) Professor Metchnikoff's great gifts of mind have been employed in the cause of science, and, unlike some of his less fortunate predecessors and colleagues, he has seen these gifts bring rich returns in the service of mankind. To many laymen his name was doubtless unknown until two or three years ago, when the so-called "sour-milk method" for repelling the premature onset of old age was so widely exploited in the newspapers; but this is seemingly the least of his successes, and deserves to be so regarded until time and the collection of facts shall show that the Bulgarian bacillus wages warfare against the host of would-be destroyers in the intestinal tract of every living creature, without itself exerting in turn any injurious effect on the body economy. As yet this theory remains unproved; up to the present no elixir of life has been demonstrated.

It is to preventive medicine that we must look for the maintenance of that vigorous health which shall lead to the final period when one experiences a sense of satiety of life and a wish for death. That is the ideal of ripe old age—a practical, useful life rounded to a fitting close and marked by a minimum of suffering throughout. When one sees an active intellect, abundant scholarship and splendid judgment, ripened by experience and fruitful in wise counsel, tottering to its fall because of old age, it seems more than a pity that this mental growth, cultivated at such great expense of time and effort, cannot by some strange procedure of husbandry be grafted directly into a sound young body. Someone has said of a great man rapidly approaching the period of superannuation: "He needs only a pair of strong legs to be young again." That is, of course, an unrealizable ideal. It certainly is becoming possible, however, to eliminate some of the most dreaded scourges of youth and to protect normal old age from some of its greatest dangers; and these are the functions of the progressive physician and of the true philanthropist.

THE USE OF TOBACCO

In England, at least, it seems that the question "Do you use tobacco?" must now be added to the anamnesis for women as well as for men. Angina pectoris has heretofore been comparatively rare among women; but Osler,[1] in a recent lecture, presages an increasing number of cases of cardiac neuralgia and of a mild form of angina in women, commensurate with the rapid increase of cigarette smoking among them. In England, it seems, many women are becoming habituated to the use of tobacco in this form; and possibly also, this vogue is obtaining among us to a degree which we, as practitioners, shall have to take into serious account.

Osler, for example, cites the case of an American woman whom he saw in Italy, whose daily allowance of cigarettes was never under twenty-five. Every morning precordial pains made dressing difficult for her. His observation that very heavy smokers may die from vagus-inhibition, such as obtains in angina pectoris, may be noted also in passing. Three of his acquaintances, seemingly strong, healthy men, not known to have had heart disease, but all incessant smokers of strong cigars, died suddenly and without warning—one while smoking, another while sitting comfortably in his club, the third on the beach after bathing.

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[1] Osler, W.: Angina Pectoris, Lancet, March 12 and 26, 1910; abst. in THE JOURNAL, April 9, p. 1239, and April 23, p. 1419.

Another word may here be interjected regarding angina pectoris in our profession. The proportion of our colleagues who suffer from this malady, the pain of which is so excruciating, and so dreadful to the beholder of these sufferings, is much greater than that in other professions. One reason for this is the profound nervous shock which physicians must feel when aroused after a couple of hours' sleep—when sleep is deepest; undoubtedly, however, another reason lies in smoking, to which the profession is unusually prone. Comment has been made, flippantly, but not without truth, on the coolness with which the medical man will advise his patient against smoking, while several cigars appear most obtrusively from his vest pocket.

WHERE GLUCOSE IS NOT CORN SYRUP

One of the first breaches made in the defenses raised in the interest of the public by the passage of the national Food and Drugs Act, was that secured by the manufacturers of glucose. While the pure food law demands that the label shall tell the truth, the makers of glucose protested that they should be permitted to call their product by the more euphemistic term "corn syrup." Permission to do this was granted, though the reason for such a liberal interpretation of the law in favor of the manufacturer and so evidently against the interests of the consumer, is not known.

Fortunately for the consumer, however, some of the states are not so accommodating to special interests. The state of Wisconsin, for instance, has a pure food law which requires that the label shall contain the naked truth rather than the skilfully adorned euphemism. Moreover—and this is of even greater moment—this state has a food commissioner who believes that the law is made to protect the public rather than to be used as an advertising asset by the manufacturer.

The result of this excellent combination has been that when the glucose trust tried to sell a mixture of 90 per cent. glucose with 10 per cent. real syrup under the name "Karo Corn Syrup," two retailers were arrested and the case brought into court. The case was fought bitterly, as might be expected, but first the Circuit Court upheld the contention of the state and later the Supreme Court of Wisconsin, to which it was appealed, sustained the constitutionality of the law. The opinion expressed by Judge Stevens of the Circuit Court, regarding the question, whether the term "corn syrup" was or was not misleading is so clear-cut and full of good sense that it is worth quoting:

"The evidence convinces the court that the public generally understand a 'syrup' to be the concentrated sap of a sugar-producing plant. The term 'corn syrup' naturally suggests that the product is a syrup produced from corn. Certainly the name carries no suggestion that it is produced by the action of acid on starch, which may be made from a score of different substances as well as from corn...Even if this product be a syrup, the difference in the cost of producing it, if no other factor were involved, would make it a fraud to sell this article to the public under a name that induces the belief that it is procuring a syrup produced in the usual way by boiling down the sap of a sugar-producing plant..."

"The question is not whether the term 'corn syrup' is coming into general use; the question is whether this name deceives the public and leads it to buy that which it would not otherwise purchase. Whether the product be wholesome or unwholesome, whether the consumer have valid reasons or only unreasoning prejudices in regard to the matter, the public has a right to know, and the state the right to compel the disclosure of, what is contained in all food products offered to the consumer...When the defendants established the fact that the public generally would not purchase the product if it were put out under the name of glucose (which is shown to be a proper designation), they brought the case within the realm where the state, exercising the police power, has the right to determine that it shall no longer be sold under a name which misleads the public."

"The Constitution does not confer on any man the right to keep secret the composition of the substance which he offers to the public as a food product. To compel him to disclose its composition does not deprive him of his property without due process of law, even though it may prevent him from using a trade name. He may be compelled to sell the product for what it actually is, on its own merits, and is not entitled to the benefit of any additional market value which may be imparted to it by resorting to any means which shall make it resemble, or sell for, or in the place of, any well known food product."

And the judge of the Supreme Court voiced the same sentiment when he said: "Nor can it be said that the great mass of persons understand that 'corn syrup' is a mixture of glucose and syrup. The natural result of such use of the term 'corn syrup' is to mislead the consumers into the belief that they are obtaining a table-food of the variety and kind commonly known as syrup, the product of sugar-producing plants, and the consequences of such practice are that the consumers are misled and deceived in the respects as to the actual nature, the constituents and the value of the article as a food product."

To punish the people of the state of Wisconsin for daring to dictate to the glucose trust that this concern shall tell the truth about its product, the trust has declared a "glucose boycott" on the Badger state. No more "corn syrup" will be shipped into Wisconsin, so the papers say, "until the existing condition of affairs is reversed." This is a modification of the famous "red clause" of the "patent medicine" interests, adapted to the glucose industry. For the past few years "Karo"—a trade-marked name for glucose flavored with syrup—has been heavily advertised all over the country. We may now expect the advertising patronage of the glucose trust to be withdrawn from the state of Wisconsin in the hope that the newspapers of the state will bring pressure to bear on the state legislators to amend and emasculate the present law. It is to be hoped that Wisconsin newspapers in this instance will not sell their birthright of journalistic freedom for a paltry mess of advertising pottage, as they did when a bill was before their legislature requiring "patent medicine" manufacturers to state the composition of their nostrums.

As for the people of Wisconsin, they are doubly to be congratulated: first, on possessing both an admirable law and honest officers to enforce it; second, on being relieved of the necessity of watching to see whether they are having a glucose mixture foisted on them in the place of, and at the price of, real syrup. Incidentally Wisconsin would seem to offer great commercial opportunities to the makers of real syrup.

PHARMACEUTICAL MANUFACTURERS AND THE GREAT AMERICAN FRAUD

The story is told that a few years ago an enterprising gentleman of the Rufus Wallingford type advertised that he would mail, post paid, to all who sent him fifty cents, a handsome picture of the Father of Our Country. Those who rose to the bait received an uncancelled two-cent postage stamp. The advertiser was declared a fraud and the get-rich-quick scheme was frustrated.

Let it be supposed for an instant that the courts had decided in this case that no technical offense against the law had been committed; that as the advertiser had actually furnished what he advertised he was legally within his rights. Let it be supposed, further, that under such a court ruling the postal authorities contracted to furnish this "picture" seller all the "pictures" (stamps) that he cared to purchase. What would be the status of the government in such a case? Undoubtedly in the eyes of the public the postal authorities would have been considered as aiding and abetting a swindle and a fraud—a moral fraud, and one more despicable than a legal fraud because under the existing law it could be perpetrated with impunity.

Supposedly reputable pharmaceutical houses that furnish medicinal products to firms or individuals whom they know to be in the business of cruelly defrauding that most helpless portion of the public—the sick—are in the same position that the postal authorities would be in the hypothetical case just given. Legally they may be within their rights but ethically and morally their course is iniquitous. No amount of argumentative sophistry will justify, in the eyes of the medical profession, the attitude taken by those manufacturing pharmacists who are willing to sell their products to any who will pay for them, no matter to what use the drugs are to be put.

In our Pharmacology department, this week, attention is called to specific cases in which nostrum exploiters have been supplied with their stock-in-trade by pharmaceutical houses which should be above such things. That a much greater list than that given could be made if the data were available, nobody doubts. "Castor-Oil Pills" were widely exploited not long ago by an advertising man; the pills, which were a simple laxative mixture without a trace of castor oil, are said to have been made by one of the large "ethical" pharmaceutical firms which must have known of the dishonesty and fraud connected with their sale. "Pennyroyal Pills," which were extensively advertised as alleged abortifacients but which contain no pennyroyal, are also credited as having their origin in a pharmaceutical house which stands high in the estimation of the medical profession. One of the cruellest and most fraudulent of the innumerable "consumption cures" on the market is alleged to be put up for the quack who sells it by an "ethical" firm. And so it goes.

How much longer manufacturers of pharmaceuticals will maintain this Janus-faced attitude depends largely on the medical profession. It is safe to assert that no firm would for long continue this wretched business in the face of insistent disapproval from physicians.

Current Comment

CHINA AND OPIUM

According to missionary testimony, China is acting in earnest in the suppression of the opium curse, and anti-opium leagues have been formed in many of the great cities. According to Rev. W. L. Beard, there were, in the city of Fu Chau, three years ago, more opium dens than rice shops, but now, through the influence of the anti-opium league, there is not a single one. One of the most encouraging evidences, however, is the fact stated in a recent dispatch that the danger of famine in the western districts of China is lessened by the amount of land which has been diverted from opium culture under the recent laws and devoted to the growth of food products. While there used to be enormous fields of poppy flowers, making this crop the most conspicuous of any, there are now fields of rice and hemp and the open culture of the opium plant is largely a thing of the past. Without doubt there are opium dens publicly open in some provinces, especially near the European settlements, and illicit sales still continue in Chinese "blind pigs" elsewhere, but the outlook seems to be encouraging.

FACULTY CHANGES

Dr. David Streett, dean of the Baltimore Medical College, writes that the following additions have been made to the medical faculty: Dr. T. B. Marden has been elected professor of biology, including histology, embryology and zoology; Dr. E. L. Whitney has been reelected professor of physiologic chemistry and pharmacology; Dr. H. Raymond Spencer, demonstrator in physiology; Dr. Reginald D. West, demonstrator in anatomy. It is stated that these instructors will devote all their time to teaching and research and that a full-time instructor in pathology and bacteriology will also be secured in the near future.

NEW INSTITUTE OF CLINICAL RESEARCH

It is reported that $200,000 has been donated by Mrs. Robert Dawson Evans, of Boston, for the erection of an Institute of Clinical Research and Preventive Medicine, to be under the direction of the Massachusetts Homeopathic Hospital. It will be built on land immediately adjoining the Boston University School of Medicine with which it will be connected by a passageway. It will also be connected by a subway with the hospital. The object of the institute is the investigation of all phases of clinical medicine as they are allied to methods of laboratory study, including particularly cancer and other diseases at present considered incurable. There will also be a ward for neurologic patients and the top floor will be entirely occupied by laboratories of pathology, bacteriology, physiology, chemistry and drug pathogenesis.

STRAW ITCH

Straw itch may be considered a new disease or, possibly more properly, a disease of which we have but recently acquired definite knowledge. In the early part of the summer of 1909 there was an outbreak of an eruptive skin disease among sailors in Philadelphia. The disease was studied by Goldberger and Schamberg, who ascertained that the cause was a small mite (*Pediculoides ventricosus*) in the straw of mattresses on which all those affected with the disease had either slept or had put their clothes. Outbreaks of what is in all probability the same disease have been reported from various points in New Jersey, Maryland, Pennsylvania, Ohio and Indiana. The mite preys on the larvæ of certain insects which live on grain and especially wheat. It remains on the straw and may attack man during the handling of the grain as in thrashing or if the straw is used in filling mattresses those sleeping on them may be infected. The main symptoms of the disease are a severe itching and an eruption consisting of wheals surmounted by vesicles which develop in a few hours into pustules.

Medical News

CALIFORNIA

College Commencement.—On June 2 the Oakland College of Medicine and Surgery graduated three physicians. Dr. F. Dudley Tait, San Francisco, delivered the principal address.

King Edward's Physician in San Francisco.—Sir Felix Semon, K.C.V.O., and wife, physician extraordinary to the late King Edward VII, made a short stay in San Francisco, May 27, on the completion of a tour around the world to the eastward.

Antituberculosis Societies.—The San Diego Society for the Study and Prevention of Tuberculosis was recently incorporated. Among the physicians taking an active interest are Drs. Joseph A. Parks and Fred R. Burnham.——The Long Beach League for the Prevention of Tuberculosis has elected Dr. Charles Bown, president; Dr. Francis L. Rogers, secretary, and Dr. Balzar W. Scheurer, treasurer.

Personal.—Dr. William K. Lindsay, a physician of Sacramento, has been appointed by the State Board of Education to supervise the health department work in the public schools. Dr. Gustav Henrikson has been made assistant.——Dr. and Mrs. Harry E. Alderson, San Francisco, have gone to Honolulu.——Dr. Augustus F. Shafer, Bakersfield, has been employed by the Mexican government to combat typhus fever.——Dr. Stewart M. Doherty, Napa, has been appointed pension examining surgeon.——Drs. Robert F. Rooney and J. N. Ward have been appointed on the board of health of Auburn.

COLORADO

Hospital for State Penitentiary.—The former Women's Department of the State Penitentiary, Canon City, has been remodeled into a hospital building with sun parlor and seperate quarters for tubercular patients.

Inspection of Lying-in Hospitals.—The State Board of Charities recently conducted a rigid inquiry into the methods of lying-in hospitals in the state. Insanitary and otherwise objectionable institutions have been closed. The state will safeguard infants adopted from such institutions.

ILLINOIS

Chicago

Personal.—Dr. and Mrs. Albert E. Mowry sailed from Montreal, June 30, for the Continent.——Dr. Benjamin H. Frayser has also left for Europe.——Dr. and Mrs. William O. Krohn have left for Europe by way of a motor trip through New England to Montreal.

Chicago Medical Society Election.—The annual election of the Chicago Medical Society occurred June 14 and resulted as follows: President, Dr. Alexander Hugh Ferguson; secretary, Dr. George F. Suker; councilors at large, Drs. Henry F. Lewis, Arthur M. Corwin, Adolph Gehrmann, Charles J. Whalen and Ludwig Hektoen.

Police Department to Run Hospital.—The Harrison Street Emergency Hospital will be conducted under the supervision of the chief of police after July 7, when it will be abandoned by the city health department. Chief Steward says it is the only hospital of the kind in the city and too valuable to be abandoned. It cares for from thirty to fifty cases each week. The chief inspected the hospital and found it in good condition.

The Work of the United Charities.—The report of the work accomplished during the past year by the United Charities of Chicago is sufficient to justify the hope that $50,000 additional annual subscriptions may be secured, making in all $200,000 annual income. There was a deficit of $2,300 in the last year's work, which is considered a good showing. Infant mortality has been reduced to 165 in each 100,000 inhabitants, the lowest record reached in Chicago.

Donations for Loyola Medical Department.—It is reported that $60,000 has recently been contributed for the construction of a new three-story medical building, at the corner of Fulton and Ada streets, for Loyola University Medical Department. This is to provide space for anatomic and chemical laboratories and for two large lecture rooms. It is also reported that provision has been made for five instructors who will devote all their time to teaching in the medical school.

IOWA

Drake Alumni Meeting.—At the alumni meeting of Drake University, held at Fort Madison recently, Dr. John R. Walker, Fort Madison, was elected president. A gift of $50,000 to Drake University by Theodore P. Shonts, an alumnus, now of New York, was announced.

Personal.—Dr. Harry E. Kirschner, superintendent of the state sanatorium at Lakedale, has been granted a three months' leave of absence for study in the east. Dr. Clarence E. Van Epps, Iowa City, will have charge of the sanatorium during Dr. Kirschner's absence.——Dr. Irenarch S. Buzard, Russell, has gone to England for study.——Dr. William P. Crumbacher, superintendent of the state hospital for insane, Independence, has been reappointed.——Dr. Francis H. Boucher has been appointed coroner to fill the unexpired term of the late Elijah W. Jay, at Marshalltown.

MARYLAND

Psychiatric Society Meets.—The Maryland Psychiatric Society was entertained at Creighton's Sanatorium, Lutherville, June 23, by Dr. L. Gibbons Smart. A paper was read by Mr. Nathaniel G. Grasty, secretary to the supervisors of city charities, on "The After-Care of the Insane." A committee was appointed to report on an epileptic colony in Maryland. The next meeting will be held in Annapolis.

Baltimore

New Feature of Hopkins Medical Clinic.—A "heart station" will be instituted at the medical clinic of Johns Hopkins Hospital next fall. It will be equipped with a special laboratory for examining the heart by electricity and other new graphic methods of registration.

Law Cases.—Suit for $50 against Dr. John D. Blake for alleged unskilled treatment of a child at birth, was decided in his favor.——A verdict for $500 is said to have been awarded May 25, against Dr. G. Milton Linthicum on account of injuries sustained by a driver from a mule frightened by Dr. Linthicum's automobile.

Personal.—Dr. Alexius W. McGlannan, of the College of Physicians and Surgeons, delivered the address at the commencement of St. Joseph's College, R. C., June 21.——Dr. John M. T. Finney sailed for Europe June 22.——Dr. Peregrine Wroth, Hagerstown, was operated on at the Union Protestant Infirmary, June 22, for appendicitis.——Surgeon Henry R. Carter, United States Public Health and Marine-Hospital Service, was given the degree of LL.D. by the University of Maryland at its recent convocation.

MISSOURI

St. Louis

Hospital Staff Named.—The hospital board of St. Louis has appointed thirty-six physicians on the visiting staff of the several institutions for four months. Future appointments will be determined by competitive examination.

Medical Degrees at Washington University.—Washington University graduated 175 students in Graham Memorial Chapel June 8. Rev. Dr. George Hamilton Combs, Kansas City, delivered the main address. Dr. William H. Welch also addressed the students.

American Medical College Reorganized.—The trustees of the American Medical College of St. Louis—eclectic—decided, June 6, that in the future the college should be conducted as a regular college of medicine. New officers elected were: Dr. James Moores Ball, dean; Dr. Ward T. Burdick, secretary, and Dr. J. Joseph Link, treasurer.

Hospitals Merge.—The Martha Parsons Free Hospital for Children and the St. Louis Children's Hospital consolidated June 1. The Martha Parsons property will be abandoned and the patients transferred to the St. Louis Children's Hospital. The income of the former will be used jointly with that of the latter for maintenance of the institution.

Apportions Medical Fund.—The income from the $100,000 originally intended for the purchase of a suitable hospital site, and estimated at $5,000 annually, is planned to be apportioned among the hospitals connected with the St. Louis University, as follows: St. John's, $1,000; St. Mary's, $500; Alexian Brothers', $300; St. Anne's Infant Asylum, $200, and Rebekah Hospital, $3,000.

NEW YORK

Employers Liability Bill Signed.—Among the last bills signed by Governor Hughes was the Wainwright compulsory employers liability bill. A plan of compulsory compensation applicable to certain dangerous employments was presented in the present bill and it also contained the proposals of the commission appointed to investigate the subject of employers liabilities as amended in certain particulars by the legislature.

Milk Violations Decrease.—Figures compiled at the attorney-general's office at Albany indicate that the strict enforcement of the pure food law since Jan. 1, 1909, has raised the standard of milk sold throughout the state. In the last few months the number of violations in regard to the sale of milk has shown a decrease. For several years impure milk has given the attorney-general's office more trouble than any other article of food.

Mayors' Health Conference.—The Mayors' Health Conference which convened in Schnectady June 24, will become a permanent institution and will hold conferences annually. At this session Dr. Albert W. Ferris, President of the State Commission in Lunacy, read a paper on "Fighting Insanity." Prof. Walter Wilcox of Cornell University spoke on "Methods of Determining Economic Losses from Preventable Diseases." He placed the economic loss of the nation due to tuberculosis at from $450,000,000 to $650,000,000 annually. Dr. H. D. Pease of the Lederle Laboratory places the loss in New York state at $70,000,000 annually. Dr. George W. Goler of Rochester spoke on "How to Get Competent Health Officers." At the evening session Dr. Woods Hutchinson spoke on "The Greatest Problem of Modern Sanitation," Dr. Harvey W. Wiley of Washington on "What the Small City Can Do to Protect Its Food Supply," and Prof. Charles Zueblin of Boston on "Obligations and Opportunities of Local Officials."

New York City

Seagoers.—Dr. and Mrs. W. E. Lambert, Dr. and Mrs. J. William White, Dr. R. M. Cramer and Dr. Austin W. Hollis have sailed for Europe.

Gift for Cancer Victims.—The Servants of Relief, under the leadership of Mother Alphonse, Nathaniel Hawthorne's daughter, have received a gift of $25,000, with which they expect to build an annex to the cancer hospital, known as St. Rose's Home, on Cherry street.

Dispensary Reopened.—The Bedford Dispensary, Atlantic and Ralph avenues, has been reopened after having been closed for a period of two years on account of lack of funds. A band of women who have made it possible to renew this work are determined that treatment shall be reserved for those who really are needy and have appointed several agents who look up applicants.

More Aids at Bellevue.—The Board of Trustees of Bellevue and the allied hospitals made three new medical appointments. In accordance with the request of Dr. W. H. Smith, the general medical superintendent, Drs. George O. Hanlon and Mark L. Flemming were appointed assistant medical superintendents and Dr. Edward S. Bishop was appointed resident physician in charge of the alcoholic service.

Personal.—The degree of doctor of science was conferred on Dr. Francis Valk at the commencement exercises of Washington College at Chestertown, Md., June 15.——The following changes have taken place in the Eastern District Hospital, Brooklyn: Dr. Martin J. Leibovici has completed his service and opened offices for practice; Dr. Aaron B. Cohn has been promoted to house surgeon; Dr. Louis J. Frank has been appointed ambulance surgeon; Dr. Joseph Rosenberg, house physician, and Dr. Albert Polon, pathologist.

Objects to Judicial Decision.—Bellevue Hospital will cause an appeal to be prosecuted in a case recently decided in the supreme court in this city by Justic Erlanger. A lawyer was charged with violating the penal code in having procured an attendant in Bellevue Hospital to furnish him with information regarding the condition of patients being treated for personal injuries attributed to negligence. The defendant contended that it was no crime to solicit such information and Justice Erlanger seems to have upheld this view.

Find Evils in Hospitals.—A special commission appointed by the State Board of Charities has just completed an investigation of some sixty private hospitals in the greater city and adopted resolutions to remedy some of the evils found. In at least twelve of the hospitals the sanitary, ventilating and fire-escape facilities were found to be inadequate. A half a dozen hospitals were found to be much overcrowded, there being insufficient space between the beds. One of the resolutions provides that no patient shall be retained at public expense in any hospital wholly or partly under private control, unless the building is fireproof and sanitary with at least twelve hundred cubic feet of air space for each patient in the ward.

New Long Island Hospitals.—The hospital being erected on Surf avenue, Coney Island, by the Brooklyn Children's Aid Society at a cost of $90,000, will be managed in connection with the Seaside Home. It is expected that it will be ready by December 1.——St. Mary's Maternity Hospital, Brooklyn, will be reopened after having been closed for a year. It has been remodeled and renovated at a cost of $50,000 and will be *known hereafter as the Hospital of the Holy Family.*——Those interested in the proposed Beth Jacob Hospital and Dispensary announce that sufficient funds have been raised to enable them to begin erection. The hospital is to be conducted in accordance with Jewish dietary laws, though they will not discriminate in accepting patients.——The Bayside Infirmary, a twenty-bed, well equipped private hospital, under the directorship of Dr. Harris A. Houghton, will be opened for patients at Bayside, August 1.

PENNSYLVANIA

Personal.—Dr. Henry H. Daney, Phoenixville, while hastening to the bedside of a dying friend, June 24, was thrown from an automobile and seriously injured.——Dr. William W. Keen, Philadelphia, sails for England July 2.——Dr. William T. Moore, Washington, has been appointed medical missionary to Egypt by the board of foreign missions of the Presbyterian Church.

Smallpox at Dickson City.—An epidemic of smallpox has been discovered at Dickson City, which is practically a suburb of Scranton. Twenty-six cases have been reported. Dr. Samuel Dixon, head of State Department of Health, has assigned Dr. P. F. Royer to take charge of the situation. All patients convalescing and those suspected of being infected are strictly quarantined.

King Edward Memorial Research Laboratory.—This laboratory is not to be given to the proposed municipal tuberculosis hospital, as stated in THE JOURNAL June 18, but is given to the hospital of the Tuberculosis League of Pittsburg, which has been carrying on a comprehensive municipal scheme for the city of Pittsburg for the past three years. Dr. William Charles White, the director of the tuberculosis league, is to be the director of the new laboratory.

Medical Societies Celebrate.—A joint midsummer outing, closing the winter session of the Lackawanna and Luzerne county medical societies, was held on June 21 at Rocky Glen Park, near Scranton. One hundred and eighteen physicians attended the afternoon session, at which addresses were made and papers were read. In the evening a banquet was served in the "Swiss Chalet" of the park. Dr. J. M. Wainwright is president of the Lackawanna and Dr. G. A. Clarke is president of the Luzerne County Medical Society.

Governor Talks to Medical Alumni.—At a meeting of the alumni of the Medico-Chirurgical College, June 2, Governor Stuart was the chief speaker. He declared that Pennsylvania had expended more money in the advancement of medical science than any other state. He said that Pennsylvania gives $7,000,000 to the cause of medicine and $1,000,000 goes annually to the support of the health department. Pennsylvania is a pioneer in the cause of tuberculosis and has expended $2,000,000 in two years in the erection of sanatoriums for the care of persons afflicted with the disease.——In discussing the question of union of the Medico-Chirurgical with Jefferson, Henry F. Walton, president of the board of trustees of the Medico-Chirurgical College, expressed himself as unalterably opposed to such a union.

Henry Phipps Tuberculosis Institute.—Mr. Henry Phipps of New York has selected the University of Pennsylvania to carry on the work of the Phipps Institute and has acquired ground in Philadelphia on which will be erected a hospital for this purpose. The extent of the benefaction exceeds $5,000,000. The report of the comittee appointed to consider the future policy of the institute has been approved by Mr. Phipps and the trustees of the university. For director of the laboratory Dr. Paul Lewis, now of the Rockefeller Institute, has been selected; for director of the sociologic department, Mr. Alexander M. Wilson, of the Boston Association for the Relief and Control of Tuberculosis; for director of the clinical department, Dr. H. R. M. Landis. In addition to a board of eight directors, who will be directly responsible to the trustees of the university, an advisory council will meet annually at the institute. The following have accepted the invitation to serve as members of this body: Drs. Samuel G. Dixon, Harrisburg, Pa.; S. M. Lindsay, New York City; William H. Baldwin, Washington, D. C.; Herman M. Biggs, New York City; William H. Welch, Baltimore; Theobald Smith, Boston; H. Gideon Wells, Chicago; Simon Flexner, New York City; James A. Miller, New York City; L. Brown, Saranac, N. Y.; Henry Baird Favill, Chicago, and James Pratt, Boston.

Philadelphia

Addition to Methodist Hospital.—Through the munificence of Thomas Bradley, president of the Methodist Hospital, a four story building, known as Bradley Hall, will be built at once on the hospital grounds at Broad and Wolf streets. The building will cost $41,000 and will contain kitchens, dining rooms, sewing room, chief resident's suite and rooms for help, thus affording room in the main building for fifty additional beds.

Personal.—Dr. Walter S. Cornell, demonstrator of osteology at the University of Pennsylvania, was taken to the university hospital on June 20, suffering from gastric ulcer. His condition is improving.

Plan Home for Feeble-Minded.—At a meeting held at the Civic Club on June 21, attended by prominent sociologists and city officials, plans were considered for the establishment of a fully equipped institution for the care of feeble-minded children. From statistics gathered by Director Neff of the Bureau of Health it was estimated that there are 1,000 feeble-minded persons at large in this city, through the lack of sufficient accommodations in the state institutions. Byberry, where the city owns vast tracts of land, was favored as the site for the erection of such home.

Pellagra at Blockley.—Dr. W. W. Hawke, chief resident physician of the insane department of the Philadelphia General Hospital, under the supervision of government officials, began a rigorous examination of all the patients in the insane department. Twelve cases of pellagra have recently been discovered in the institution, the first cases of the disease recognized in this city. Sixteen other patients are believed to be pellagra victims, but the diagnosis has not been fully established. Dr. J. D. Long, a government physician, who has made an extensive study of pellagra, and Dr. H. F. Harris, of the Georgia State Board of Health, in association with Dr. Hawke, are making a careful study of the cases.

GENERAL NEWS

Milk Commissions Meet.—The American Association of Medical Milk Commissions held its fourth annual session in St. Louis, June 4 and 6, and elected the following officers: President, Dr. Milton J. Rosenau, Harvard University; secretary, Dr. Otto P. Geier, Cincinnati; treasurer, Dr. Albert W. Myers, Milwaukee, and councilor, Surgeon John W. Kerr, U. S. P. H. and M.-H. Service. Philadelphia was selected as the meeting place for 1911.

Memorial to Dr. Howard T. Ricketts.—A memorial tablet was unveiled in the City of Mexico in honor of Dr. Ricketts, June 24, as will be seen by the invitation to the ceremony *given below:*

> "La Secretaría de Instrucción Pública y Bellas Artes suplica á Ud. se sirva honrar con su presencia la ceremonia que se efectuará el 24 del actual, á las 10 de la mañana, en el Instituto Bacteriológico Nacional (Popotla, D. F., calle de Gonzalo Sandoval, 4), para descubrir una lápida conmemorativa en el laboratorio del mismo Instituto en que trabajó el Sr. Dr. D. Howard T. Ricketts, distinguido profesor de las Universidades de Chicago y Pennsylvania, que perdió la vida en el curso de sus investigaciones sobre el tabardillo. *México, 17 de junio de 1910.*"

[The Minister of Public Instruction and Fine Arts requests the honor of your presence at the ceremony which will be held at 10 a. m., June 24, in the National Institute for Bacteriology, for the unveiling of a memorial tablet in the laboratory of that institute in which worked Senor Dr. Don Howard T. Ricketts, distinguished professor in the universities of Chicago and Pennsylvania, who lost his life in the course of his research on Mexican typhus. Mexico, June 17, 1910.]

American Association of Medical Journal Advertisers.—This association held its fourth annual meeting in St. Louis, June 9. Vice-President Dr. S. Grover Burnett, Kansas City, presided. The secretary's report showed that a large number of objectionable advertisements had been eliminated from the pages of medical journals through the efforts of the association during the year, but that there was much yet to be done to clear their pages of quack advertisements. The following resolution offered by Dr. Burnett was unanimously adopted:

> *Resolved*, That, where the business of an institution has been built up by newspaper advertising or other irregular methods, the owners or managers thereof shall not be accepted as members of this association or their advertisements permitted to appear or remain in journals containing the advertisements of members of this association until such institution has purged itself of irregularity to the satisfaction of the county medical society of the county in which it is located.

The following officers were elected: President, Dr. S. Grover Burnett, Kansas City, Mo.; vice-president, Dr. George H. Moody, San Antonio, Tex.; secretary, Dr. George E. Pettey, Memphis, Tenn.; executive committeemen, Dr. J. Joseph Kindred, Astoria, L. I.; Dr. F. H. Barnes, Stamford, Conn.

CANADA

Annual Meeting of the Canadian Association for the Prevention of Tuberculosis.—The seventh annual meeting of this association was held in Montreal, June 7 and 8, under the presidency of Prof. J. George Adami. Dr. Adami advocated the formation of Protestant institutions for the care of the tuberculous similar to those in vogue under the charge of the Catholic Sisters of Quebec, who the past few years, especially the Sisters of Providence, have been doing a great deal of good work along these lines. Major-General George M. Sternberg of Washington delivered an address on "The Housing of the Working Classes As a Factor in the Prevention of Tuberculosis."

Personal.—The following Toronto practitioners are sailing for Europe: Drs. Adam H. Wright, Herbert A. Bruce, Allen Baines, Irving H. Cameron, F. N. G. Starr.——Dr. Charles A. Hodgetts, secretary of the Ontario Board of Health, has resigned and has been appointed secretary to the public health section of the Canadian National Conservation Commission. Dr. J. W. McCullough of Alliston, Ont., has been appointed to succeed Dr. Hodgett.——Dr. A. I. Maider, Halifax, has returned from Edinburgh.——Dr. Oskar C. Gruner, clinical pathologist to the General Infirmary, Leeds, England, has been appointed pathologist to the Royal Victoria Hospital, Montreal, and lecturer on pathology at McGill.——Dr. Charles Sheard, medical health officer and chief of the street cleaning department of Toronto, has resigned.——Dr. John D. Wilson, London, is reported to be critically ill.

The Carnegie Foundation Report and Canadian Medical Colleges.—According to this report, which has just been distributed in Canada, four of the eight medical colleges would meet the needs of medical education in Canada. These are Toronto, McGill, Manitoba and Laval at Quebec. Toronto and McGill are put down as first class. Toronto has about reached its efficiency. McGill and Manitoba are capable of considerable expansion. Laval at Montreal and the Halifax Medical College are feeble. London is said to be very bad. The future of Queen's at Kingston is doubtful. Probably it would be a good thing for Canadian medical education if Laval at Montreal united with Laval at Quebec, that Halifax should become a preparatory school for McGill, and the Western at London and Queen's should become preparatory schools for Toronto. McMaster University, Toronto, however, has some idea of some day establishing a medical faculty. Later on, as the west develops, there will likely be a medical college in Vancouver.

Convocation at McGill.—On June 10 convocation was held at McGill University for medical and dental degrees. Dr. T. Wesley Mills, who for many years has been professor of physiology, delivered an address to the graduates in which he announced his retirement. Dr. Mills will take up his residence in Germany for the recuperation of his health. In his address he scored the citizens of Montreal for taking so little interest in their university. Referring to the teaching of medical students, he said they were given a great deal too much to digest; they should be taught less but taught better. He thought there were too many practitioners on the faculty, and that the aim of the faculty should be to teach the students to be men first and medical practitioners second. At the close of his address he was presented with a purse of gold by Dean Shepherd, on behalf of the faculty. Dr. Shepherd announced the retirement of Prof. William Gardner from the chair of gynecology. Dr. Gardner has been connected with the faculty for twenty-seven years. Announcement was also made of the appointment of Dr. J. C. Simpson as professor of embryology and histology.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, June 18, 1910.

The Antituberculosis Campaign

The antituberculosis campaign is still being pursued with great energy, but the problem of providing adequate sanatorium accommodation remains a difficult one. There has been a great diminution in the number of cases of consumption in England and Wales in recent years, but they still amount to between 250,000 and 300,000, while the number of beds available at sanatoriums numbers only 1,500. The average duration of treatment in a sanatorium is from 4 to 6 months. Therefore there is only sanatorium accommodation for 1 to 1.5 per cent. of those who may require it. Each year there are 40,000 deaths from consumption and 20,000 from other forms of tuberculosis. It seems that adequate accommodation can be provided only by the state or by some form of insurance against disease, including tuberculosis, like that adopted by Germany. The cost would to a large extent be saved by diminution in the loss which now results from tuberculosis. It is calculated that friendly societies pay each year for consumption $6,000,000, the poor-law authorities $7,000,000 and the special hospitals $2,500,000. In addition to this the indirect loss due to loss of wages cannot be less than $20,000,000 to $25,000,000. This makes a total annual loss of $40,000,000, a figure which some authorities consider much too low. Addressing the Manchester and Salford Sanitary Association, Dr. Arthur Latham of St. George's Hospital said that if all this money were intelligently spent the disease could be eliminated in 20 to 30 years.

The National Association for the Prevention of Consumption and Other Forms of Tuberculosis is undertaking a new educational campaign by means of traveling tuberculosis exhibitions, caravans with lantern-slides, popular lectures, an information bureau for the press and public and the distribution of leaflets. It is estimated that an efficient campaign on these lines will cost not less than $25,000 annually. A special effort is being made to secure the cooperation of working-class organizations in the campaign. A tuberculosis exhibition has been held at various centers in London. At Whitechapel (in the east end) 70,000 persons visited it, and it was equally successful at the other centers, as well as in the country, at Cambridge, Oxford and other places.

Decline of Venereal Disease in the Army in India

One of the remarkable features of the medical statistics of the British army in recent years is a decline in the number of cases of venereal disease. In India the admission rate in 1908 fell to 69.6 per 1,000, the lowest on record. This result is largely due to the efforts of the authorities to stamp out vice and to make the men's lives attractive. The various church bodies and the Royal Army Temperance Association have worked strenuously for this end.

Leprosy in London

The presence of a case of leprosy in the Whitechapel Union Infirmary (in the east end of London) has given rise to some anxiety, as no provision exists in London for the isolation of this disease, which in the popular mind is regarded as an almost extinct rarity in this country. But the fact is that London always contains a sprinkling of lepers who go about their daily work without doing harm to anyone and without their neighbors being aware of the fact. Some of them are clerks working in city offices; others perform a certain amount of manual labor, and several leper children regularly attend the London county council schools. According to Sir Jonathan Hutchinson there are never fewer than 100 cases of leprosy in England and now there are probably 50 in London. The presence of the disease is always concealed by the patients and their physicians do not reveal it because of the popular prejudice against the disease. It always occurs in persons who have been abroad and lived in leprous districts. No case of contagion in England is known. Sir Jonathan Hutchinson, who has always taught that the leprosy is not contagious, has had under his care for the last 10 years a boy suffering from the disease. The lad is now nearly 20 and has recovered. He went to school in London and is now working in an office.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 17, 1910.

Protest Against the Disorders in the Concours

The council of the Lyons medical college, the Société des médecins des hôpitaux de Paris, and the Syndicat médical de Paris, like the professors of the Paris college of medicine, have voted their disapproval of the disorders which took place at the last concours de l'agrégation. The syndicate has resolved that the question of the reform of medical instruction ought to be seriously studied by the minister of public instruction and ought to be solved as soon as possible by a commission comprised of equal numbers of professors and of practicing physicians.

Dedication of Pasteur Monument at the Higher Normal School

When the Pasteur monument in Paris was erected a few years ago by public subscription, the cost of the monument did not entirely absorb the funds. At the suggestion of Dr. Roux and the family of Pasteur this remainder was offered to the Ecole Normale Supérieure for a modest memorial to the great scientist in the school rendered illustrious by his own works. After having taught in the scientific schools of Strasburg and of Lille, in 1867 Pasteur entered the Paris normal school as director of scientific studies, and remained there until he established the Pasteur Institute in 1889. Most of Pasteur's great discoveries issued from the modest laboratory of the normal school on the rue d'Ulm, near which the monument stands. The dedication took place on June 5.

Return of the Charcot Mission

The mission for the study and exploration of the Antarctic regions directed by Dr. Jean Charcot, son of the celebrated neurologist, has just returned to France. The program laid out for the expedition by the Académie des Sciences included exploration of that region of the Southern Pacific included between the meridians of South America and New Zealand and the study of meteorology, terrestrial magnetism, marine currents and natural history of this unknown region.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, June 9, 1910.

The Death of Robert Koch

The wave of excitement set in motion by the death of our gifted bacteriologist and hygienist has not yet subsided. In consequence of the importance of this pioneer investigator, medical societies as well as the press and society in general are still engrossed with this most significant event of the last week. The ashes of the dead scientist, cremated in Baden-Baden, have been brought to the Institute for Infectious Diseases, which was the place of his labors for the last decade, and they will be permanently installed in a room which, with the permission of the national authorities, is to be converted into a mausoleum for Koch. In this room also there will be placed the bust, contributed by his pupils on his sixtieth birthday, his works and other memorials. A memorial room will be produced, similar to the one which has been provided for Pasteur in his Paris institute. In order to avoid a large number of single memorial services in the various societies of which Koch was an honorary member, a committee has been formed which is preparing a single memorial service for all these bodies in common. The date for this celebration has been postponed to December 11 of this year, which will be the sixty-seventh birthday of Robert Koch; this resolution has been taken because, as is generally understood, in the next few weeks many of the persons who would be interested in this memorial will be away from home and, moreover, because representatives from foreign countries are expected at the celebration (particularly from America, an expectation which we hope will not be disappointed), and finally because Koch himself wished a quiet interment. The memorial address at the proposed service will be delivered by Gaffky, the oldest pupil of Koch and his successor in the directorship of the Institute for Infectious Diseases. Gaffky is also chairman of the committee, which includes in addition a large number of prominent Berlin physicians.

Mortality in Prussia in 1908

In 1908 362,259 males and 331,465 females died in Prussia. In addition there were reported 21,876 still births of the male sex and 16,908 of the female. Without reference to the still births the mortality rate per thousand on Jan. 1, 1908, was 18 (for males, 19.1; for females, 17). This figure is the most satisfactory since the institution of uniform vital statistics (quite as good as the two preceding years).

Warning Against Selecting the Medical Profession

The Leipsic league has lately again undertaken to dissuade the graduates of our secondary schools from undertaking the study of medicine. In the circular issued for this purpose it is noted that in 1908 only 618 places could be placed at the disposal of 898 physicians who were seeking localities to practice through the intermediation of the league. In that year only 6,000 persons were studying medicine, but the number of students of medicine has risen continually since 1905, from 6,080 in 1906 to 8,568 in 1908-09, and in the summer semester of 1909 to 9,509. That the income of German physicians is quite small has been recently shown by a statement of the statistical bureau of Saxony. According to this, in the entire kingdom of Saxony 34.8 per cent. of the physicians had not yet an annual income of $1,050 (4,300 marks), and only 44.8 per cent. of the physicians received more than $1,500 (6,300 marks). In this calculation of the income the professional expenses have been deducted, but on the other hand the income from private property of man and wife and all other outside sources are included. These economic conditions will become even worse after the introduction of the new imperial insurance law, for then all persons who have an income of $500 (2,000 marks) and under will be entitled to sick insurance. This means that in Prussia, for instance, 92 per cent. of the population will belong to the Krankenkassen.

Lactation in the Blazek United Twins

Considerable scientific interest has been aroused over the phenomena of lactation in the united Bohemian twins, the Blazek sisters, one of whom was delivered recently of a boy at Prague (mentioned in the Vienna letter April 28). The father of the child is the manager of the two sisters, who has exhibited them to the public for several years. The Blazek twins form a pygopagus; that is, twins joined at the buttocks: all the organs of the trunk are duplicated, except that the rectum and the introitus vaginæ are in common. Formerly the sisters menstruated for a four to five day period. During pregnancy the menses ceased in the pregnant woman, while the other sister menstruated regularly until the last two months before the birth. It is remarkable that lactation set in not only in the woman who was delivered but also in her sister. Dr. Basch, who examined the sisters in the Prague hospital, reports this fact and its explanation in the last number of the *Deutsche medizinische Wochenschrift*. (Trunececk and Baudouin also discuss the teratologic aspect of the case in the *Semaine Médicale*, May 18.) Basch regards the influence of the sympathetic nervous system on the secretion of milk as small. The rôle of the sympathetic is especially shown in the transmission of reflexes in sucking or milking which are necessary to a uniform continuous activity of the mammary glands. The essential specific activity of the mammary glands is independent of the nervous system. According to Basch, the growth of the breasts is occasioned by stimulant substances which are present in the ovary after impregnation, while the initiation of the secretion of milk is brought about by stimulating substances which may be obtained from the expelled placenta. According to his opinion the secretion of milk in the non-pregnant twin is to be explained by the fact that we have to do with two individuals living in parabiosis in whom the necessary stimulus to the production of lactation generated by the pregnant sister was carried by the common blood stream to the other sister with positive effect. Whether this idea will be sustained by other investigators remains to be seen.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, June 3, 1910.

The Weather in May and Public Health

This last month of May was most unusual on account of the weather and its effects on the general health. The first half of the month was characterized by excessive rainfall, which exceeded that in any month of May since reliable records have been kept in this country (1775). It amounted to 184 mm. Nevertheless, the general health was excellent, especially among children. A complete absence of gastro-intestinal disturbance was noted, and also among the adults. Vital statistics for this period show remarkably favorable figures. When on May 15 fine weather set in and continued without interruption till the end, with high summer temperature, at once the number of diseases went up by leaps and bounds; summer diarrhea set in and numerous infectious diseases were reported, especially pertussis, measles and diphtheria. In adults disturbances of the respiratory organs were common. Another remarkable feature was the belated appearance of the so-called hay-fever, which in this country generally is observed already in the last days of April, while this year the most dangerous time for these poor patients, the budding of chestnuts, passed off without much harm to them. Furthermore, the wet weather at the beginning of our summer has caused enormous numbers of mosquitoes, which for many years were not found around Vienna, to invade all country places, so that at present they are veritable pests in such places. No appreciable influence has been hitherto noticed on the appearance of epidemic cerebrospinal meningitis and poliomyelitis, which have been seen sporadically during the winter. It was feared that the moist weather would cause a rise in the number of those cases, but hitherto, luckily, nothing of this kind has happened.

Report of Vienna General Policlinic

The report of the Policlinic in Vienna contains the following interesting figures: In 1909, not less than 76,950 new patients were admitted, 5,000 more than 1908. Of these 5,011 were patients who stayed 52,133 days altogether in the wards. Besides, 854 children were admitted, 17,000 minor operations were performed in the out-patient departments, while 970 major operations were performed on the in-patients. The mortality of the operations was only 5 per cent., while the mortality of the entire hospital was 10.5 per cent.; 59 per cent. of the patients were discharged cured. An interesting feature was the fact that diphtheria, of a light nature only, was observed, the mortality being 4 per cent. This is quite unusual and must be ascribed only to an accidental influence, as otherwise the mortality is from 8 to 12 per cent., even with antitoxin, which is here the routine treatment. The expenditure exceeds the income by 51,000 kronen, so that the deficit is keenly felt. There were altogether 220 students (mostly duly qualified doctors) in the wards and out-patient departments; 60 per cent. were English or American, and a good many lectures were delivered in English. The medical staff of the Policlinic, which comprises special professors for all branches of medicine, numbers 21 professors and 80 physicians and assistants. The hours of attendance on the patients vary from 8 a. m. till 8 p. m., so that during practically all the day specialist help is available for all patients and diseases.

Pharmacology

PHARMACEUTICAL MANUFACTURERS AND THE GREAT AMERICAN FRAUD

How Pharmaceutical Houses Aid and Abet the Nostrum Evil

At various times we have given more or less complete accounts of the prosecutions the United States Government has brought against nostrum exploiters under the Food and Drugs ct. One of the more recent of these, while of comparatively ittle interest *per se* is of importance to the medical profession, because of certain elements connected with it. The case is known technically as "Notice of Judgment No. 284" and deals with the "Alleged Misbranding of Danderine." The gist of the case is as follows: Casks of Danderine—a widely advertised "hair tonic"—were shipped in carload lots from Michigan to West Virginia, where the product was bottled, labelled and put in condition to be retailed. Danderine contains a percentage of alcohol which, while given on the labels of the bottles in which it is sold, was not stated on the casks in which the preparation was shipped in bulk. The government sought to confiscate, under the Food and Drugs Act, 65 casks thus shipped because the quantity or proportion of alcohol in the casks was not stated. The Knowlton Danderine Company resisted the confiscation and the court upheld the company's claim.

The point in this case which is—or should be—of interest to the medical profession is to be found in the "statement of facts" presented by the Knowlton Danderine Company in its own defense. Here it is said that: "Parke, Davis & Co., who are mentioned in the said libel as shippers . . . are under contract with the said Knowlton Danderine Company . . . to compound the said formula . . ." Elsewhere it is stated: "Parke, Davis & Co. were . . . the manufacturing agents, under contract, of the owner, the Danderine Company . . ."

This evidently means that Parke, Davis & Co., who are generally supposed to manufacture only "ethical" preparations—proprietary or otherwise—and as such to desire the respect and good wishes of the medical profession, are in the business of furnishing the supplies for nostrum vendors. What Danderine is, it is hardly necessary to specify. The widely distributed advertisements of this "hair tonic" nostrum with the slogan: "Danderine Grows Hair and We Can Prove It" are sufficiently well-known to all who read to make a lengthy disquisition on the product unnecessary.

It is interesting in this connection to note that according to newspaper dispatches the Danderine Company has absorbed the Sterling Remedy Company, which exploits "Cascarets." Three years ago a physician, who is also a pharmacist, wrote to the *Medical World* regarding the manufacture of Cascarets:

> ". . . I have positive evidence, which I will gladly submit, that P., D. & Co., make all of them [Cascarets], and that they have a contract with the Cascaret people not to make anything similar for any one else."

In the circular which comes in the Danderine packages two other "specialties" are advertised: "Neuralgine" for "sick, weak, tired nerves" and "Drake's Palmetto Compound" for "weak stomachs, sluggish livers, disordered kidneys" and various other derangements of the system. The question naturally arises, are these, too, shipped in casks from Parke, Davis & Co., and merely bottled and labelled in West Virginia?

Not that the Danderine case is the first one in which Parke, Davis & Co. have been exposed as manufacturers of nostrum supplies. "Vitaopathy" a method of "treatment" practised by the notorious New York Institute of Physicians and Surgeons in the person of "Prof." Adkin and apparently consisting of "absent treatment" and pills, was finally put out of business by a fraud-order from the post office department. The concern used to advertise:

> "In Professor Adkin's laboratory, his chemists are daily engaged in extracting the life-and-health-giving principle from rare vegetables, fruits and plants."

"Prof." Adkin had no laboratory; his chemists, according to the government report, were Parke, Davis & Co., from whom he purchased the tablets which formed part of his stock-in-trade of quackery.

The Nutriola Company of Chicago was declared fraudulent by the postal authorities and a full account of the methods of this fake medical concern appeared in THE JOURNAL, April 28, 1906. Nutriola was advertised as:

> "The greatest Chemical-Medical Preparation ever prepared by the skill of man."
>
> "Nutriola and Nature are the only invincible conquerors of diseases ever known."

The promoter of this scheme was one Edward F. Hanson, who was questioned by the government inspectors regarding the manufacture of the Nutriola nostrum. Quoting from the government report:

> "*Q.* Please name the chemists who now manufacture the remedies of the Nutriola Company."
>
> "*A.* Parke, Davis & Company, Detroit; E. L. Patch Manufacturing Company, Stoneham, Mass.; Seabury & Johnson, New York."

Not that the course pursued by Parke, Davis & Co. is by any means an exceptional one in the pharmaceutical world. It may be recalled that THE JOURNAL has previously referred to the fact that Sharp & Dohme are reported to make or to have made the "Getwell Tablets" for the "patent medicine" concern which exploits the nostrum; and that Frederick Stearns & Co. make or did make the widely advertised "cures" Shac and Zymole Trokeys also has been mentioned. That Seabury & Johnson made preparations for a fake medicine concern was brought to light by Mr. Adams in the "Great American Fraud" series. And unquestionably there are many others. The attitude taken by such houses seems to be that they are willing to furnish anything in the pharmaceutical line that anyone is willing to pay for, whether it is for legitimate use of the physician or pharmacist or for furthering the business by which the ignorant or gullible sick are humbugged and defrauded.

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION.]

MOTHERSILL'S SEASICK REMEDY

W. A. Puckner and W. S. Hilpert

While, from published analyses, the composition of such classes of proprietary remedies as cough cures, headache-powders, etc., has become well known, very little has appeared regarding the nature of nostrums advertised to prevent seasickness. For this reason the examination of Mothersill's Seasick Remedy, as an extensively exploited representative of this class, was undertaken in the Association laboratory. The manufacturers, "Mothersill Remedy Co., Ltd., Detroit," send out circulars containing the most extravagant and sweeping statements regarding the efficacy of their remedy. For instance:

> "The only remedy which stops instantly and prevents, in every case, when taken according to directions, seasickness, carsickness and nausea caused by motion, climbing, etc."
>
> ". . . It is a great stomach strengthener."
>
> "No bad after-effects are ever produced by this remedy."
>
> "Mothersill's Seasick Remedy has never been known to fail in a single case."

These statements are backed by the "guarantee" of the manufacturers as follows: "We guarantee the successful action of Mothersill's Seasick Remedy in every case."

Further to inspire confidence, an analytical report and testimonials are included in the advertisements. The chemist reports that he found neither "opium, morphin, cocain or any other alkaloid——." The testimonials are principally in the form of reprints from newspapers, mostly of English origin, and are as lavish in their praise of the remedy as the firm's own advertisements.

The preparation, as purchased on the market, comes in small boxes containing sixteen capsules, half of them containing a pink powder and the remainder a brown powder. The capsules are wrapped in tin-foil and packed with a circular and the reproduction of the analyst's report mentioned above. The cover of the container bears the name and manufacturer of the preparation with statements as to its use. The under side of the box bears the "guarantee" and special directions for the use of the remedy in the Irish and the English channels.

The pink powder possesses an odor resembling camphor, and when placed on the tongue produces a slight anesthesia. It is partly soluble in water and partly in chloroform. Qualitative examination[1] indicated the presence of chlorbutanol (acetone-chloroform; chloretone; methaform), caffein, milk-sugar and a fatty acid. Quantitative analysis demonstrated that 100 parts of the material contained approximately:

Chlorbutanol	46.1 per cent.
Caffein	7.9 per cent.
Milk-Sugar	27.0 per cent.
Fatty acid	18.2 per cent.
Undetermined	0.8 per cent.

The brown powder possessed the same general properties as the pink and was found to contain chlorbutanol, caffein, powdered cinnamon and a fatty acid. The quantitative analysis showed that 100 parts of this brown powder contained approximately:

Chlorbutanol	45.6 per cent.
Caffein	8.3 per cent.
Cinnamon, powdered	24.8 per cent.
Fatty acid	20.3 per cent.
Undetermined	1.0 per cent.

From the above it will be seen that the chief constituent of this preparation is chlorbutanol, a substance some years ago introduced as a substitute for cocain and used as a local anesthetic: it has been recommended as a preventative of nausea.

EDITORIAL NOTE: It is evident from the analysis that in this nostrum we have but another example of a scheme that is as old as quackery itself—selling a well-known remedy under another name and investing it with virtues that are little short of miraculous. While chlorbutanol—better known under the proprietary names of chloretone and methaform—has been used to some extent and with a limited degree of success in the treatment of sea-sickness, it is evident that if it were the marvelous specific against *mal de mer* that the exploiter would have us believe, its use would long ago have become universal. This nostrum, like all others, depends for whatever popularity it may have on several factors. The first, and largest, is the universal tendency to give any therapeutic agent—worthy or worthless—the credit that rightly belongs to beneficent Nature. Second is the psychic element, which is enhanced by the exaggerated but very positive claims that are made for all nostrums, strengthened by the fact that the victim is paying ten times more than the thing is worth. The element of suggestion is still further augmented by the device of administering two powders of different colors containing essentially the same substances. Last, and least, the fact that the principal ingredient has a therapeutic value in selected cases.

Correspondence

Snake Poisoning—A Case of Plagiarism

To the Editor —My attention has just been called to an article entitled "Practical Consideration of Snake Poisoning," by Benjamin H. Orndorff, B.A., M.D.," Instructor in Pathology, Chicago College of Medicine and Surgery, Pathologist to Frances Willard Hospital, Chicago." This article was published in the *Medical Standard*, Chicago, September and December, 1909, pages 476 to 481 and 637 to 640. There was published by me in the *Archives of Internal Medicine*, Chicago, volume 1, June, 1908, pages 516 to 570, a paper entitled "Snake Poisoning in the United States; a Study Based on an Analysis of 740 Cases." This paper was the result of a large amount of work, which involved not only an examination of the literature but a collection, by correspondence with physicians practicing in the South, of a considerable number of unpublished cases. This article was commented on editorially by THE JOURNAL, July 11, 1908, page 132, and later reviewed in the Department of Therapeutics (THE JOURNAL, Aug. 8, 1908, p. 498).

The article by Dr. Orndorff, mentioned above, seems to be based almost entirely on my article published in the *Archives of Internal Medicine*. The outline and the division of the subject are identical. Not only paragraphs, but whole columns are exactly and literally quoted—without quotation marks. The conclusion and summary of my article, divided into ten numbered paragraphs, has been appropriated as a whole, without change and again without quotation marks. Dr. Orndorff makes absolutely no mention of my communication, gives absolutely no credit. Indeed, in one of the few paragraphs not taken bodily from my paper he states (in substance) that his article is based on a careful study of the literature!

It would seem that such a flagrant case of plagiarism as this should not go unnoticed, constituting, as it does, a disgrace to medical journalism. I trust THE JOURNAL will see its way clear to compare the two articles mentioned. Any comment it might see fit to make would be appreciated.

PRENTISS WILLSON, M.D., Washington, D. C.

[Proof of the above letter was submitted to Dr. Orndorff, who replies:]

The article is a publication of abstracts taken from several original articles appearing in current literature. These abstracts I prepared to assist me in giving a lecture on the subject and were intended to be the basis of an article for publication; however the abstracts, as they stood, appeared in the *Medical Standard* without my seeing a proof sheet for approval, indeed, the first portion appeared while I was in Europe, the second about fifteen days after my return.

All credit to the men writing the original articles was unfortunately omitted and the publication, as it stands, appears as a clumsy combination of plagiarism and ignorance on the part of the author. While I am certain there is nothing I can say or do that will amend the injustice inflicted on the men whose brains have developed the material from which these abstracts were taken, still it would please me to state in the columns of THE JOURNAL of the American Medical Association that the most excellent monograph by Dr. Prentiss Willson, "Snake Poisoning in the United States; a Study Based on the Analysis of 740 Cases," appearing in the *Archives of Internal Medicine*, June, 1908, furnished the outline and much of the information found in my abstracts, while the summary and conclusion were copied entirely.

On receiving the reprints from this publication, I immediately observed the unfortunate state of affairs, and personally called at the office of the *Standard* to negotiate for another set of reprints which should contain the two omitted paragraphs, quotation marks and many other corrections, hoping that by the corrected print I might offset in a small measure the gross mistakes. On learning the cost of such alterations, I decided to ignore the entire affair and to dispose of the reprints without distribution.

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[1] The details of the analysis will be sent on receipt of a stamped, addressed envelope; they will also be published in the annual report of the Chemical Laboratory.

In conclusion I wish to express my profound regret for this mistake and trust that this explanation and apology may serve as a slight atonement of the injustice imposed on these men, for whose labor I possess the highest regard.

B. H. Orndorff, M.D.

[Comment: We suggest that those who are interested in the subject of journalistic plagiarism should examine the two articles. They can then decide for themselves whether or not the explanation explains.]

Hay-Fever Not a Contraindication to Antitoxin

To the Editor:—The note in the Medicolegal department (June 18, 1910, p. 2094), in regard to the use of tetanus antitoxin on patients who have hay-fever, leads me to say that I have used the antitoxin as a prophylactic measure on several occasions. Many patients have suffered in varying degree from hay-fever, yet in no case have I seen any untoward effect follow its use.

I myself suffer severely from hay-fever during August and September of each year. Last September I received an injury which made it seem wise to use a single large injection of the antitoxin. At the time I was suffering severely from hay-fever. I suffered no inconvenience whatsoever following the injection.

There is at times so much at stake as a result of injuries which tetanus may complicate, and prophylactic treatment is so very satisfactory, that I should not in the least hesitate either to use the antitoxin on a hay-fever patient or to have the antitoxin used on myself as frequently and in as large doses as might seem to be useful.

Edward M. Colie, Jr., M.D., New York.

A New Word for Vaccine

To the Editor: There is need of a new descriptive word in our nomenclature. "Vaccine," from *vacca*, "a cow," is a misnomer when applied to serums taken from any other source, man, horse, goat, guinea-pig or rabbit; and doubtful, if a culture is made from a broth. We need a word which defines the character of the remedies now so much used as antidotes. We reverse the old dictum of the homeopathic school: "Similia similibus curantur," and say "Like kills like;" and this likeness of remedy to disease should be asserted.

My own suggestion for the new word is "viroid," i. e., like the virus for which it is the antidote. This name is distinctive, and it follows the analogies of medical language. It claims to combat a disease with its specific antidote. "Viroid" would be the name of the type of remedy, and a prefix would define the special remedy.

We may hope before long to have in use a pneumonia viroid, an influenza viroid, a scarlatina viroid, as we have now a rabies viroid.

"Antitoxin," by popular and professional use, is assigned to diphtheria. Itself a cumbrous word, any prefix or combination would make it worse. "Viroid" is definite, is descriptive, and is an easy helpmate when yoked with any named disease.

Henry Freeman Walker, New York.

Miscellany

Constriction Hyperemia in Local Prophylactic Treatment of Rabies.—Fermi and Cano report that the results of their experimental research suggest the possible advantage of applying a constricting elastic band, according to Bier's technic, to a limb that has been bitten by an animal suspected of rabies. Fermi applied the constriction from 1 to 4 or even 5 hours after injection of a 1 per cent. emulsion of fixed virus and maintained it for from 1 to 12 hours. All the animals thus treated survived, while the controls all died. Cano reports from Suez that in similar experiments 8 of the 9 dogs survived, that is 88 per cent., while only 55 per cent. were saved out of 9 rabbits and dogs treated by searing the lesion with a hot iron. Fermi also was able to save only 50 per cent. of those treated with the hot iron. Cano's report is published in the *Centralbl. f. Bakt.*, March 2, 1910, liv, page 37.

Diagnosis of Morphin Addiction by the Leucocytes.—Achard, Bénard and Gagneux state that it is possible by examination of the leucocytes to recognize morphin intoxication, to supervise the effects of treatment of morphin addiction and to distinguish between morphin and heroin intoxication. In their communication on the subject in the *Bull. Soc. Méd. des Hôp. de Paris*, 1910, xxxvi, 958, they relate a number of experiences with clinical, experimental and chemical tests showing the action of morphin on the leucocytes. The resisting power and activity of the leucocytes are rapidly reduced by injection of morphin except in those accustomed to the drug; in them there is no modification of the leucocytes after a test injection of morphin. The properties of the leucocytes are determined by the cytolytic action of a hypotonic salt solution; the mechanical activity being determined by their capacity of absorption of a stain (neutral red) or of foreign bodies (sterilized thrush fungus). The findings in 42 cases are given in detail.

Blister Method for Transplanting Epidermis.—A. Tedeschi had occasion to treat a patient with extensive burns who refused to permit Thiersch flaps to be taken from elsewhere to cover the defect. After excluding kidney trouble, Tedeschi applied a caustic to the skin over the desired area for a few hours and then cut the skin of the resulting blister to use for flaps, which he was able to make of the exact size and shape desired. The defect thus covered with the flaps was protected with perforated rubber tissue with moist gauze above. In his communication on the subject in the *Semana Medica*, 1910, xvii, 247, he states that the results were very good. The superficial layer of the transplanted flaps was thrown off in a few days, but the epithelial layer left soon grew to cover the raw area under the usual measures.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

VERMIN AS CARRIERS OF DISEASE

To the Editor:—Please give references to literature on common insects and animals as carriers of diseases to man.

S. E. Woody, Louisville, Ky.

Answer.—Giles: Gnats and Mosquitoes, William Wood & Co.
Levy: The Extermination of Mosquitoes, W. B. Saunders Co.
Mitchell: Mosquito Life, G. P. Putnam's Sons.
Ross: Mosquito Brigades and How to Organize Them, Longmans Greene & Co.
Herzog, M.: The Plague; Bacteriology, Morbid Anatomy and Histopathology, Including a Consideration of Insects as Plague-Carriers. Dept. of the Interior, Bureau of Government Laboratories, Manila, 1904, No. 23.
Merriam, C. H.: California Ground-Squirrels, U. S. P. H. and M.-H. Service, Washington, 1910.
Rosenau, M. J.: Disinfection Against Mosquitoes with Formaldehyd and Sulphur Dioxid, Bull. 6, Hyg. Lab., U. S. P. H. and M.-H. Service, Washington.
Stiles, C. W.: A Zoologic Investigation into the Cause, Transmission and Source of Rocky Mountain "Spotted Fever," Bull. 20, U. S. P. H. and M.-H. Service, Washington.
The Rat and Its Relation to the Public Health, U. S. P. H. and M.-H. Service, 1910.
Weber, S. E.: Dissemination of Tubercle Bacilli by Insects, *New York Med. Jour.*, Nov. 3, 1906; abstr. in The Journal A. M. A., Nov. 17, 1906, p. 1683. Also editorial in The Journal A. M. A., Dec. 29, 1906, p. 2164.
Editorial: The Control of Insect-borne Diseases in the Army, The Journal A. M. A., Aug. 3, 1907, p. 421.
Lloyd, B. J.: The Rat and His Parasites in the Spread of Disease, Especially Bubonic Plague, *California State Jour. Med.*, April, May and June, 1907.

Sofer, L.: Transmission of Disease by Insects, *Therap. Monatsh.*, April, 1908; abstr. in THE JOURNAL A. M. A., May 16, 1908, p. 1659.

Verjbitski, D. T.: Insects in the Epidemiology of Plague, *Jour. Hyg.*, London, May, 1908; abstr. in THE JOURNAL A. M. A., Aug. 15, 1908, p. 628.

Dutton, W. F.: Insect Carriers of Typhoid Fever, THE JOURNAL A. M. A., Oct. 16, 1909, p. 1248. This article is accompanied by a full bibliography.

Some valuable information on this subject can be obtained from the Reports of the Wellcome Research Laboratories Bureau, published by the Department of Education, Sudan Government, Kartoum.

THYMINIC ACID

To the Editor:—Where can I obtain thyminic acid, which has been used apparently with success in gout by Dr. Fenner of England? I cannot find it listed in any catalogues of American drug houses. 2. Has it been used in this country with any success?

F. H. NORWOOD, Prague, Okla.

ANSWER.—1. Thyminic acid is also known under the name "solurol," a name which was given to it by its discoverer, Minkowski, and which appears not to be proprietary. We presume it can be obtained through the regular channels of the drug trade.

2. An article describing the use of thymic acid in gout by E. Schmoll, appears in THE JOURNAL, April 29, 1905, p. 1348, but we find no reference to it in American literature since that time. Schmoll treated about 30 patients with it with favorable results. The term thymic acid as used by Schmoll refers to the substance which is more properly known as thyminic acid. A general account of this substance was given in THE JOURNAL, Aug. 22, 1908, p. 692. In an article on "The Pathology and Therapy of Gout" (*Therapie der Gegenwart*, February, 1909), F. Umber makes the following statements: "We have used solurol in gouty patients with exact observation of the metabolism without any clinical effect and without any effect on the curve of uric acid excretion." It is well to remember, as Umber remarks, that there is scarcely any so-called gout remedy which has not been credited by this or that author with brilliant success.

The Public Service

Medical Department, U. S. Army

Changes for the week ended June 25, 1910.

Oliver, Robert T. E. S. D., surgeon, returned to Fort Hamilton, N. Y., from temporary duty at Fort Hancock, New Jersey.

Griffis, F. C., M. R. C., left station with 4th Field Artillery to Fort D. A. Russell, Wyo, Target and Maneuver Reserve.

Long, Charles J., dental surgeon, reports for temporary duty at Fort Andrews, Mass.

Gunckel, George I., dental surgeon, reports for temporary duty at Fort Screven, Ga., left Fort Sarrancas, Fla., June 10, 1910.

Ferenbaugh, Thomas L., M. R. C., reported at Fort D. A. Russel, Wyo., for temporary duty.

Gray, William W., col., reported for duty as Chief Surgeon, Headquarters Department of Dakota, St. Paul., Minn.; left St. Paul, Minn., June 18, 1910, on 30 days' leave of absence.

Oliver, Robert T., E. S. D. S., will proceed to the *camp of instruction* to be held at Gettysburg, Pa., to arrive July 1 for dental service during the encampment.

Hall, William E., M. R. C., on arrival at San Francisco, will proceed to Whipple Barracks, Ariz., for station.

Clark, John A., capt., on arrival at Seattle, Wash., will proceed to Plattsburg Barracks, N. Y., for station.

Roberts, William M., major., granted 3 months' leave of absence.

Pinkston, O. W., capt., reported for temporary duty at Fort D. A. Russel, Wyo.

[illegible] lieut., honorably discharged from the service of [illegible]

[illegible] major, left Fort MacKenzie, Wyo., on 10 da[illegible]

[illegible] R. C., ordered to active duty in the service of the United States, and will proceed to Fort D. A. Russel, Wyo., for station and duty.

Warriner, B. B., M. R. C., granted 10 days' leave of absence.

Banister, William B., lieut. col., will, in addition to his duties at Fort Snelling, Minn., take charge of the office of chief surgeon, Department of Dakota, St. Paul, Minn., during the absence of Colonel William W. Gray, Medical Corps.

Sharpe, Herbert H., M. R. C., ordered to proceed from Fort Jay to Fort Niagara, N. Y., for temporary duty.

Holmes, R. W., M. R. C., left Plattsburg Barracks, N. Y., on 10 days' leave.

Clark, John A., capt., granted leave of absence for 1 month.

Coffey, Albion McD., M. R. C., granted leave of absence for 1 month.

Coe, Henry C., M. R. C., ordered to active service and will proceed to Camp of Instruction, Gettysburg, Pa., *for duty*.

Hughes, Leonard S., M. R. C., ordered on expiration of his present leave of absence to proceed to Fort D. A. Russel, Wyo., for station and duty.

Pinquard, Joseph, M. R. C., granted leave of absence from June 22 to Sept. 9, 1910, at which date he is honorably discharged from the service.

Long, Charles J., dental surgeon, ordered to proceed at the proper time to Pine Camp, Jefferson County, N. Y., for dental service during the Camp of Instruction.

Snyder, Henry D., major, granted 30 days' leave of absence; ordered to proceed to New York City, on official business pertaining to the Medical Department of the Army.

Medical Corps, U. S. Navy

Changes during the week ended June 25, 1910:

Woodland, E. E., acting asst.-surgeon, appointed acting asst.-surgeon from June 18, 1910.

Fitts, H. B., medical inspector, detached from command Naval Hospital, Pensacola, Fla., and ordered to continue other duties.

Pryor, J. C., surgeon, ordered to command the Naval Hospital, Pensacola, Fla.

Shipp, E. M., surgeon, detached from the Naval Recruiting Station, N. Y., and ordered to the Naval Medical School Hospital, Washington.

Asserson, F. A., surgeon, detached from the Naval Hospital, Portsmouth, N. H., and ordered to duty at the Naval Hospital, Boston.

Heiner, R. G., P. A. surgeon, ordered to duty at the Naval Hospital, Norfolk, Va.

Haynes, J. P., surgeon, detached from the Navy Yard, Norfolk, Va., and ordered to the Naval Recruiting Station, and the Naval Station, New Orleans.

Stuart, A., P. A. surgeon, ordered to duty at the Naval Hospital, Boston.

Jenness, B. F., P. A. Surgeon, detached from the Naval Recruiting Station, Buffalo, N. Y., and ordered to the Naval Hospital, Portsmouth, N. H.

Howard, J. V., A. A. surgeon, ordered to duty at the Naval Hospital, Philadelphia.

Hightower, C. C., A. A. surgeon, ordered to duty at the Naval Hospital, New York.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 22, 1910:

Glennan, A. H., assistant surgeon-general, granted 1 month's leave of absence from July, 1910.

Cofer, L. E., assistant surgeon-general, granted 4 days' leave of absence from June 22, 1910.

Wertenbaker, C. P., surgeon, granted 4 days' leave of absence from June 27, 1910.

Wille, C. W., P. A. surgeon, detailed to attend the joint meeting of the Ohio State Board of Health with local boards of health to be held in Cleveland, Ohio, June 30-July 1, 1910.

Long, J. D, P. A. surgeon, relieved from duty in the Hygienic Laboratory and detailed for duty in the Bureau as assistant surgeon-general in charge of the Division of Domestic (Interstate) Quarantine, effective June 16, 1910, Paragraph 12, Service Regulations.

Stimson, A. M., P. A. surgeon, granted 4 days' leave of absence from June 15, 1910, under Paragraph 191, Service Regulations.

Roberts, Norman, P. A. surgeon, granted 1 day's leave of absence June 13, 1910, under Paragraph 191, Service Regulations.

Frost, W. H., P. A. surgeon, granted 2 days' leave of absence en route to station.

Mullan, E. H., P. A. surgeon, granted 13 days' leave of absence from June 17, 1910.

Stiles, C. W., Professor, Chief Division of Zoology, Hygienic Laboratory, detailed to attend the annual meeting of the Medical Society of North Carolina, to be held at Wrightsville Beach, June 23, 1910.

Delgado, J. M., acting asst.-surgeon, granted 26 days' leave of absence from July 1, 1910.

Hough, J. Spencer, acting asst.-surgeon, granted 30 days' leave of absence during the calendar year, 1910.

Hunter, W. R., acting asst.-surgeon, granted 10 days' leave of absence from June 18, 1910.

O'Neill, A. A., acting asst.-surgeon, granted 3 days' leave of absence without pay from June 10, 1910, under Paragraph 210, Service Regulations.

Marriages

ROBINSON BOSWORTH, M.D., Calais, Me., to Miss Mary Neill of Boston, June 21.

JOHN MERLIN ALFORD, M.D., Galva, Ill., to Miss Shirley Foote of Chicago, June 17.

CHARLES OGILVY, M.D., to Miss Evelyn Hunter, both of New Rochelle, N. Y., June 15.

LOUIS ROSENTHAL, M.D., to Miss Elizabeth Kass, both of New York City, June 7.

CHARLES WILSON DOUGHTIE, M.D., Norfolk, Va., to Miss Alice Glenn Smith, June 18.

WILLIAM F. BEITSCH, M.D., to Miss Mabel McDanel, both of New Brighton, Pa., June 14.

HENRY SYMES STINSON, M.D., to Miss Mary H. Broadwell, both of Berwyn, Ill., June 18.

ETTA BARKDOLL, M.D., Greencastle, Pa., and J. Roy Selsam, at Hagerstown, Md., June 11.

WILLIAM GARFIELD FOX, M.D., to Miss Susan Lucretia Burg, both of Lancaster, Pa., June 21.

THOMAS WORTH KELLER, M.D., to Miss Hannah B. Jones, both of Pittsburg, Pa., recently.

FRANCIS C. GOLDSBOROUGH, M.D., to Miss Mollie Pitcher Cook, both of Baltimore, June 8.

William Roy Elgin, M.D., Ruleville, Miss., to Miss Zerah Harpole of Europa, Miss., June 11.

Charles F. Daniels, M.D., Tiffin, Ohio, to Miss Olga Mary Hierholzer of Celina, Ohio, June 14.

Howard T. Clarke, M. R. C., U. S. Army, to Miss Elinor L. Tracy, at Fort Thomas, Ky., June 7.

Arthur Clarkson Smith, M.D., Oakland, Cal., to Miss Algae Margaret Hurd of Lodi, Cal., June 4.

Washington Budd Sager, M.D., Woodstock, Va., to Miss Helen Newman, at Woodstock, June 14.

Charles Butterfield, M.D., Rock City, Ill., to Miss Charlotte Heath of Lawrence, Mich., recently.

John Royer Laughlin, M.D., Hagerstown, Md., to Miss Myrtle F. Binkley, at Hagerstown, June 15.

Walter Everett Deering, M.D., Hollywood, Cal., to Miss Lillian Rose Moody, at Hollywood, June 21.

George William Kirmse, M.D., Frazee, Minn., to Miss Aldine Jacobsmeyer of Clayton, Mo., June 15.

Alfred Curtis Rice, M.D., McSherrystown, Pa., to Miss Violet M. Smith, at McSherrystown, June 14.

Harold Bailey, M.D., to Miss Mabelle Rague, both of Charles City, Iowa, at Waterloo, Iowa, June 15.

Albert Ege Craig, M.D., Washington, D. C., to Miss Azelia DeGrange Jones, at Shepherdstown, W. Va., June 16.

Clarence W. Russell, M.D., Lamar, Colo., to Mrs. Abby C. Howe of Laporte, Ind., at Logansport, Ind., recently.

Charles Hatch Stoddard, M.D., Milwaukee, Wis., to Miss Eloise Marie Jackson of Birmingham, Ala., June 25.

Harvey B. Sanborn, M.D., to Miss Bernice Esther Monk, both of Providence, R. I., at Campello, Mass., June 10.

Ernest L. Ruffner, M. C., U. S. Army, to Miss Jessie B. Bowen of Buffalo, N. Y., at Mount Vernon, N. Y., June 14.

William Worthington Herrick, M.D., New York City, to Miss Emily Elizabeth Schwab of Ossining, N. Y., at Scarboro, N. Y., June 15.

Deaths

William Henry Seaman, M.D. (Hon.) Howard University, Washington, D. C., 1883; professor of chemistry and toxicology in Howard University; a fellow of the American Association for the Advancement of Science; corresponding member of the Maryland Academy of Sciences; member of the Biological, Geographical and Chemical societies of Washington; president of the Washington Microscopic Society in 1900, and secretary of the American Microscopical Society from 1891-1894; principal examiner of the United States Patent Office, Washington; died in that city, June 11, from arteriosclerosis and acute cardiac dilatation, aged 72.

John Wesley Tope, M.D. Rush Medical College, 1870; a member of the American Medical Association; a veteran of the Civil War; superintendent of the Asylum for the Insane at Dunning for five years; member of the surgical staff of Cook County Hospital for fourteen years; founder of the Oak Park Hospital; president of the Alumni Association of Rush Medical College; president of the Aux Plaines branch of the Chicago Medical Society; died at his home in Oak Park, June 18, aged 65.

Meyer Herman, M.D. Columbia University, Washington, D. C., 1891; contract surgeon U. S. Army, 1898 to 1901; assistant surgeon, U. S. Volunteers; a veteran of the Spanish-American War, who went to the Philippines with the Thirty-eighth Volunteer Infantry as a captain-surgeon after a season in Cuba combating yellow fever; of Manila; died in St. Paul's Hospital at that place, May 12, from diabetic coma, following an operation for appendicitis, aged 49.

John Francis Bennett, M.D. Michigan College of Medicine and Surgery, Detroit, 1892; a member of the American Medical Association; professor of physical diagnosis and clinical medicine in his alma mater; U. S. pension examining surgeon; a resident of Detroit and coroner of Wayne county; died at the home of an aunt in Northville, Mich., June 19, from valvular heart disease and heat prostration, aged 45.

Jules A. Simon, M.D. University of California, Medical Department, 1875; Faculty of Medicine, Paris, France, 1883; a member of the Medical Society of the State of California; at one time president of the Board of Health of San Francisco; and a member of the staff of Mount Zion Hospital; died from heart disease while ascending Mount Vesuvius Italy, June 8.

E. Rose Dorsett, M.D. Jefferson Medical College, Philadelphia, 1868; a member of the Medical Society of the State of North Carolina; coroner of Rowan county for thirty years; died at his home in Salisbury, June 16, from pericardial effusion, aged 76.

Edward D. Swift, M.D. Louisville (Ky.) Medical College, 1894; a member of the Indiana State Medical Association; of Macy, Ind.; died at Oskaloosa, Kan., where he had gone for his health some weeks ago, June 10, from heart disease, aged 39.

Robert Booth, M.D. University of Michigan, Department of Medicine and Surgery; 1867; a member and chairman of the Millbury, Mass., Board of Health; died at St. Vincent Hospital, Worcester, June 14, from cystitis and heart disease, aged 69.

John Belton O. N. Harrington, M.D. Louisville (Ky.) Medical College, 1879; a member of the Mississippi State Medical Association; of Crawford, Miss.; died at the home of his sister in that place, June 13, from chronic gastritis, aged 57.

Charles Herbert Boxmeyer, M.D. Cornell University Medical College, 1906; at one time state bacteriologist of Florida and later city bacteriologist of Sacramento, Cal.; health officer of Palo Alto, Cal.; died at that city, June 13, aged 34.

David D. Stewart, M.D. Jefferson Medical College, Philadelphia, 1879; a pioneer practitioner of Johnson county, Iowa; a veteran of the Civil War; died at his home in North Liberty, Iowa, June 10, from heart disease, aged 79.

Randall Doyle Bibber, M.D. Medical School of Maine, Brunswick, 1871; a member of the American Medical Association; three times mayor of Bath, Maine; died at his home in that city, June 9, from chronic nephritis, aged 64.

Burwell Philip Goode, M.D. Medical College of Ohio, 1858; a member of the American Medical Association; a practitioner of Cincinnati for fifty years; died at Cincinnati, April 23, from cerebral arteriosclerosis, aged 77.

Wesley A. Cormack, M.D. Eclectic Medical Institute, Cincinnati, 1874; for more than thirty years a practitioner of Cherryvale, Kan.; died at his home in that place, June 9, from heart disease, aged 71.

Randall Williams, M.D. Albany (N. Y.) Medical College, 1848; a practitioner of LeRoy, N. Y., for half a century, and said to have been the oldest physician in Genesee county; died at his home, June 10, aged 85.

Edward Goodell Larrabee, M.D. Dartmouth Medical School, Hanover, N. H., 1909; a member of the staff of the Maine State Sanatorium, Hebron; died at that institution, June 12, from tuberculosis, aged 24.

Robert Newton Hawley, M.D. College of Physicians and Surgeons, New York City, 1879; a veteran of the Spanish-American War; formerly of Milwaukee, Wis.; died at Baltimore, June 13, aged 54.

Levi D. Tebo, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1873; a practitioner of Bordentown, N. J., for thirty years; died in that city, June 14, from cardiac degeneration, aged 65.

Allen P. Mitten, M.D. Rush Medical College, 1867; Bellevue Hospital Medical College, New York City, 1873; formerly of Columbia City, Ind.; died at his home in Seattle, Wash., June 13, aged 65.

William Kennedy Brown, M.D. Jefferson Medical College, Philadelphia, 1845; a practitioner of medicine for sixty years; of Paris, Texas; died at the home of a son in Detroit, Texas, June 9, aged 91.

George P. Yost, M.D. Washington University School of Medicine, Baltimore, 1871; of Glen Rock, Pa.; died at the home of his son-in-law in Baltimore, June 12, from heart disease, aged 62.

John Winthrop Spooner, M.D. Harvard Medical School, Boston, 1871; a member of the American Medical Association; died at his home in Hingham, Mass., June 19, from paralysis, aged 64.

William Ekwurzel, M.D. Jefferson Medical College, 1868; a member of the Medical Society of the State of Pennsylvania; died at his home in Philadelphia, June 18, from heart disease, aged 67.

Ephraim S. Wynn, M.D. Jefferson Medical College, Philadelphia, 1872; of Camden, N. J., and Philadelphia; died at his residence in Camden, June 13, from heart disease, aged 61.

Thomas H. Ferguson, M.D. Washington University Medical Department, St. Louis, 1867; of Gridley, Cal.; died at the Rideout Memorial Hospital, Marysville, Cal., June 18, aged 73.

W. A. Martin, M.D. Medical College of Georgia, Augusta, 1843; of Cobbham, Ga.; while shaving, accidentally cut his throat so severely that he bled to death, June 12, aged 89.

Elijah Wilson Carney, M.D. Medical Department of Nashville and Vanderbilt University, Nashville, Tenn., 1892; of Shelbyville, Tenn.; died at that place, June 15, aged 40.

Robert A. Hammond, M.D. Jefferson Medical College, Philadelphia, 1876; of Monroe, Ga.; died at his home in that place, June 13, following an operation for appendicitis, aged 58.

Willis Brooks McMichael, M.D. Harvard Medical School, 1881; of Boston; died at the home of his mother in South Newcastle, Maine, June 11, from heart disease, aged 50.

William Eugene Trautwein, M.D. Bellevue Hospital Medical College, New York City, 1890; of New York City; died at his home, June 19, from heart disease, aged 44.

William Hendrik Horsley, M.D. California Eclectic Medical College, Los Angeles, 1900; of Manton, Cal.; died at that place, Oct. 14, 1909, from disease of the liver, aged 50.

Asa C. Wilton, M.D. University of Wooster, Medical Department, Cleveland, Ohio, 1882; died at the home of his sister in Youngstown, Ohio, June 16, aged 61.

Frank Cecil Fenhagen, M.D. College of Physicians and Surgeons, Baltimore, 1875; died at his home in Baltimore, June 13, from nephritis, aged 55.

William Alexander Simmons, M.D. Jefferson Medical College, Philadelphia, 1855; died at his home near Troy, N. C., recently, from nephritis, aged 82.

Henry W. Stork, M.D. Medical College of Evansville, Ind., 1878; died at his home in Holland, Ind., June 3, from cerebral arteriosclerosis, aged 59.

John M. McKnight, M.D. Tulane University, New Orleans, 1872; a confederate veteran; of Laredo, Texas; died at that place, June 19, aged 64.

Lorin North Pontius, M.D. Rush Medical College, 1881; of Canton, Ohio; died at a hospital in Gallipolis, Ohio, June 20, aged 56.

Daniel P. Durst, M.D. Jefferson Medical College, Philadelphia, 1850; died at his home in Wheatland, Cal., June 11, aged 85.

Stephen H. Fuller, M.D. Fort Wayne (Ind.) College of Medicine, 1880; died at his home in Pleasant Lake, Ind., June 21, aged 62.

Society Proceedings

AMERICAN SURGICAL ASSOCIATION

Annual Meeting, held in Washington, D. C., May 3-5, 1910

Operative Treatment of Tumors of the Hypophysis

Dr. A. E. Halsted, Chicago: A survey of the literature on the operative treatment of tumors of the hypophysis shows that many of the procedures proposed are based, not on clinical experience, but on observations made in the post-mortem room; therefore, the merits of these methods are still unproved. The routes of approach previously advocated have been the intracranial and the extracranial. I propose what I term the oronasal route, which I employed successfully in one case. It is a modification of the infranasal method of approach, but is without the trauma and disfiguration which must follow the König operation.

DISCUSSION

Dr. S. J. Mixter, Boston: In a patient operated on by the route suggested by Kanavel, there was a large cyst in the hypophysis filled with cholesterin and holding about one and a half to two ounces of fluid. The patient made a good recovery after the operation and his vision, which before was extremely poor, has been benefited.

Dr. Harvey Cushing, Baltimore: The various means of approach to the hypophysis do not make so much difference as does the matter of dealing with the structure when it is brought into view. The growth often becomes malignant, as is true of long-standing trouble with the thyroid, and it is conceivable that it cannot be entirely removed. In fatal cases it has often been found that only a mere fragment of the growth has been taken away. The operation in the first place has for its object the relief of pressure; the symptoms can be combated by the mere removal of the lower part of the sella turcica and the splitting of the capsule of the gland.

Dr. A. B. Kanavel, Chicago: Concerning the technical procedure in Dr. Halsted's cases, in the first one particularly the view could not have been better. The operation was very quickly done, the anterior wall of the sphenoidal sinus quickly removed, the bulging sella turcica opened, and a tumor protruding into the sinus was removed without difficulty. In the second case, the sella turcica did not bulge into the sinus, it was seen with more difficulty and was arrived at by anatomic deductions. In two cases there was considerable hemorrhage and I would suggest the elevation of the head during the operation. In the majority of cases it will only be necessary within the nose to remove the vomer and the anterior portion of the sphenoid in order to come down on the sella turcica.

Dr. Dean Lewis, Chicago: The tissue removed from the first case contains no elements which are ordinarily found in the anterior lobe or the pars intermedia, but is composed of stratified epithelium with a papillary arrangement, therefore we must assume that the tumor has probably developed from an epithelial inclusion which has not gone on to complete differentiation. The tissue removed from a second case came from the anterior lobe. In some sections the cell columns are cut parallel, long rows of cells resting between rather thick connective tissue trabeculæ; in other fields the cells have fused and in still other fields the fusion has become so marked that large groups of cells are found, hyperplasia apparently having ended in adenoma formation. It is important to recognize the complex structure of the hypophysis in making the anatomic diagnosis of tumors of this gland, and to remember that the cells of the anterior lobe, when growing rapidly tend to reproduce the structure of a sarcoma.

Benign Bone Cysts, Ostitis Fibrosa, Giant-Cell Sarcoma and Bone Aneurism of the Long Pipe Bones

Dr. Joseph C. Bloodgood, Baltimore: In many lesions technic is ahead of diagnosis. The development of technic is more rapid, because the results of faulty technic are immediate, while the development of diagnosis is more difficult, especially in tumors, because the results are more remote. Treatment of tumors which will assure the patient the greatest possibility of a permanent cure with the least mutilation will be accomplished only when surgeons have a better conception of the local growth of neoplasms. The so-called benign bone cyst may present itself in five forms: First, as a medullary cyst without any definite gross lining; second, as a similar cyst with a definite connective tissue lining which is easily stripped from the bony capsule; third, as a medullary mass of fibrous tissue with a small cyst; fourth, as the same medullary mass of fibrous tissue without any cyst formation; and fifth, as multiple medullary cysts. Among 89 cases of which 20 were personally observed, 69 belong to the variety of true localized bone cyst or ostitis fibrosa. The other 20 cysts have different etiologic factors, for example, cysts in enchondroma, in pure myxoma, in giant-cell sarcoma, in ostitis deformans; cysts due to subperiosteal ossifying hematoma, and callous cysts. At the exploratory incision in benign cysts there is always found a thin shell of bone; the contents of the cyst are usually of a dark-brown color and thin. The giant-cell sarcoma, of which I have studied 19 cases, can also be recognized at the exploratory incision. The medullary cavity is filled with a soft, hemorrhagic tissue resembling granulation tissue mixed with whitish areas which, when removed with the curette, come away in masses of irregular shape. This tumor also has been cured by *curetting. It is 8 years since I curetted from the medullary cavity of the upper end of the tibia such a tumor, and this patient has no evidence of recurrence today.* Patients have been cured even after repeated curetting; amputation is indicated only when the patient has allowed the tumor to grow to such a size that it has perforated the bone capsule and infiltrated the soft parts to such an extent that its complete removal would leave a functionless limb. The so-called bone aneurism is a much less frequent tumor and is distinctly malignant. It is a hematoma due to hemorrhage in the most malignant form of medullary spindle, round, or mixed-cell sarcoma, and I believe that in this stage of this tumor metastasis has already taken place, so that no harm could come from mistaking such a tumor for a bone cyst or giant-cell sarcoma. I have seen 3 cases, in one of which the patient was not saved by the highest amputation; in the second case amputation was refused; the third case was first treated as bone cyst, amputation was done later, but the patient died of metastasis.

DISCUSSION

Dr. Rudolph Matas, New Orleans: In one case in which, after removal of a giant-cell sarcoma from the humerus, there was a large cavity, I used about an ounce and a half of Mosetig cement, and the patient later developed extreme symptoms of iodoform poisoning, from which he recovered in 10 days, and the arm healed with a perfect contour of the bone. I believe that in Beck's paste we have a most valuable means of filling up cavities, it being superior in my opinion to any other paste.

Dr. William L. Rodman, Philadelphia: I recall a patient operated on in 1889 for large giant-cell sarcoma of the lower jaw by free chiseling and curettement but without removal of the maxilla. The patient lived for more than ten years after this operation, and may be alive today.

Dr. Joseph A. Blake, New York: I had a case of sarcoma of the fourth finger. A simple operation in this case proved most satisfactory, and now, three years since operation, there is a normal phalanx.

Dr. Harry M. Sherman, San Francisco: In my experience salt solution poured into these cavities a little in excess just before the last stitches are taken is as good as any other material for filling; it is replaced by blood and obviates the necessity of putting in any foreign body.

Dr. Dudley P. Allen, Cleveland: Some years ago, I removed the lower jaw of a patient for giant-cell sarcoma, leaving but a small portion of the substance of the jaw. I used a splint to hold the teeth in place. The patient recovered entirely and is now well.

Dr. William S. Halsted, Baltimore: In a case of myxoma of the humerus, although the disease involved the bone from one end to the other, there was no cyst and no fibrous tissue. The bone was excised four years ago except for a strip posteriorly and at the lower end, and the entire cavity carefully swabbed out with phenol. The patient made a good recovery and had a strong humerus, but there were implantation recurrences in the soft parts on two occasions. The patient is now perfectly well.

Dr. Nathan Jacobson, Syracuse: I recall a patient with giant-cell sarcoma of the jaw in whom I did a partial excision of the upper jaw about 25 years ago. The patient is still living. There was never any recurrence. In my experience in those cases of giant-cell sarcoma in which there is reasonable cleaning out there is seldom a recurrence of the growth.

Professor A. Von Eiselsberg, Vienna: In such cases as these mentioned, in Vienna we are in the habit, before finishing the operation, of pouring boiling water into the wound in order to destroy all the germs, and have found it a most satisfactory method.

Dr. J. Bloodgood: Dr. Halsted's case of exostosis with involvement of the humerus brings out the point that pure myxoma is a benign tumor; recurrence after operation may be due not so much to leaving a portion of the tumor growth behind as to infecting the wound in removal of the tumor. In such cases it would be well to use boiling water, pure phenol, or the Paquelin cautery to disinfect the wound.

Diagnosis and Surgical Treatment of Esophageal Diverticula

Dr. C. H. Mayo, Rochester, Minn.: Most cases of esophageal diverticula are pharyngo-esophageal. The condition is confined to adults. Dysphagia is the most common symptom; cough and dyspnea are common. Distended sacs are often visible in the neck and can be emptied by pressure. The condition is disclosed by probing and by radiograph of the bismuth-distended sac. H. S. Plummer's method of diagnosis is a combination of the technic of Mixter and Dunham, as used in stricture. The patient swallows a silk thread which passes into the intestine. The Plummer perforated acorn probe passed on the thread gives the depth of the pocket and location of its neck. Gastrostomy for temporary feeding may be necessary. Operation is by lateral oblique incision; blunt dissection; exposure of sac and excision; closure by suture; rubber tissue drain.

Thoracic Surgery on Human Beings

Dr. Willy Meyer, New York: I have operated on 10 patients with the help of my differential pressure apparatus. In two young patients, 6 and 11 years old respectively, who had suffered for years from bronchiectatic abscess symptoms, and were bad risks, I extirpated a lobe of the lung in each case, but neither recovered. Three times exploratory thoracotomy was done for cancer of the esophagus with recovery. In order to do good surgical work when operating for a malignant stricture of the esophagus I have found it necessary to get the scapula out of the way and, therefore, propose as a preliminary operation the Schede-Friedrich flap operation, by which the entire shoulder girdle is turned up, thus permitting the surgeon to make his incision into the thoracic cavity wherever required; often two incisions are necessary. On March 31, 1910, I proceeded in this way for a cancer of the esophagus in a patient aged 43. It was found that the malignant tumor extended from about 1½ inches above the cardia to the aortic arch. After division of the esophagus and inversion of the lower stump through the sixth intercostal space, the third interspace was opened, and the healthy portion of esophagus reached, outside of the common carotid artery, after proper division of the costal pleura; then the entire diseased portion was shelled out and brought in front of the aortic arch. To my dismay I found in the course of this latter part of the operation that the growth involved the right pneumogastric nerve; it was impossible to push the nerve off; it had to be divided at the lower end of the tumor, and again interfered with in amputating the esophagus above the upper border of the tumor. The proximal end was also inverted by a double purse-string suture, the intention being to do gastrostomy two or three days later. The interference with the pneumogastric nerve had a deleterious effect on the heart action, which up to this time had been splendid. The operation was well completed, but in spite of intravenous infusion given, the patient succumbed shortly afterward. The only hope of operative success in these cases lies in early operation, certainly before the intimately adjacent pneumogastric branches are involved, and the first step of such operation should be to free these nerves. Their involvement will more or less decide the operability or inoperability of the given case. Up to the present time resection of the esophagus has a mortality of 100 per cent.

End-to-End Intestinal Anastomosis by the Invagination Method

Dr. C. L. Gibson, New York: End-to-end intestinal anastomosis by telescoping one segment into the other has been practiced from time immemorial, but at present has no recognized position in surgery. My present technic, I believe, furnishes a method for which there is a demand, particularly in the surgery of the lower end of the colon. It is as follows: The upper cut edge of the gut is seized with two Kocher clamps and introduced by these into the lumen of the lower end and maintained there by an assistant. The extent to which it is feasible to accomplish this invagination will vary. The gut is rotated about a quarter circle so that the nonperiosteal covered surfaces do not entirely approximate in the circumference. From eight to twelve interrupted silk sutures are introduced thus: A Lembert suture is begun on the lower segment, the needle issuing just short of the cut edge, on the upper segment the needle is introduced just above the line where the cut edge of the lower segment lies against the intact wall of the upper. When the knot is tied the free cut edge has been turned inward, and only the peritoneal surfaces are in contact. A continuous running suture is applied over this area further invaginating the first ones, the Kocher clamps being previously withdrawn.

Postoperative Intestinal Obstruction

DR. GEORGE WOOLSEY, New York: Postoperative intestinal obstruction is either mechanical or paralytic. In early cases diagnosis is not so easy as it is obscured by peritonitis, operative trauma and the sequelæ of anesthesia. Many of the symptoms of obstruction and peritonitis are identical. Rigidity is the important sign of peritonitis and absolute constipation of obstruction. If the latter cannot be relieved, a diagnosis of obstruction should be made. The problem in prophylaxis is to prevent sepsis, operative trauma and adhesions, to which nearly all cases are due: hence operation is indicated in all cases of appendicitis as soon as diagnosis is made. When septic peritonitis is present modern technic (Murphy's) will cure in most cases and prevent paralytic ileus. To prevent atony rough and undue handling of intestines should be avoided. When early distention is marked and increasing, enemata of various kinds may be used with or without physostigmin. Stupes and lavage are also very useful. The prevention of adhesions is largely a matter of careful technic. Operate early, rapidly, yet carefully, and avoid drainage. If drains are necessary, the kind of drains and their position are of great importance. I remove source of infection, avoid displacing bowels, cover denuded peritoneum if possible, encourage early peristalsis and advise frequent change of position after operation. Treatment of actual obstructions is operative. In late obstructions, ample incision should be made over site of obstruction, if it is known, otherwise exploratory operation is indicated. Collapsed and distended coils are guides to obstruction. If gut is not viable I resect and anastomose. In early obstructions, palliation by enemata, physostigmin, lavage, etc., should not be persisted in too long. Most patients are operated on too late.

DISCUSSION

DR. CHARLES H. MAYO, Rochester, Minn.: I want to testify to the invagination method being a good one in the removal of tumors low in the sigmoid, at the upper rectum; in fact, it is about the only way one can get union.

DR. ALBERT J. OCHSNER, Chicago: If immediately on the appearance of nausea or gaseous distention gastric lavage be instituted, there will be fewer instances of intestinal obstruction following shortly after operation.

DR. E. WYLLYS ANDREWS, Chicago: End-to-end anastomosis implies for success that we get the lumen at once, and this is not true with the McGraw ligature; but if we can devise a method by which all the advantages of this ligature can be strengthened by obtaining the open lumen immediately we will have an ideal method.

DR. ALEXANDER H. FERGUSON, Chicago: In regard to operative obstruction and the prevention of adhesions following operations, I would say that for four years I have used subgallate of bismuth, smearing it over all raw surfaces, with most complete satisfaction.

Abnormal Position of the Duodenum

DR. G. E. ARMSTRONG, Montreal: The duodenum is singularly constant in its relations, course and length; any exceptions are exceedingly rare and worthy of note. In the anomaly reported, the duodenum ran to the right and then turned downward external to the hepatic flexure, ascending colon and cecum, and, merging into the jejunum, passed from without inward below the cecum into the small intestine area. The duodenum was completely surrounded by peritoneum. It had a long mesentery throughout and could easily be held two or three inches in front of the abdominal wall. The head of the pancreas, closely applied to the duodenum, was visible and palpable between the layers of the duodenal mesentery, and readily followed the duodenum when the latter was brought outside the body. There was no ligament of Treitz and no fossa duodeno-jejunalis. The condition is clearly one of arrested development. The cecum in this case did not mount upward to the lower hypochondrium and did not pass in front of the loop of the duodenum. The cecum did not descend to its usual final resting place in the right iliac fossa. It was high, completely surrounded by peritoneum, very movable, and could be brought out through the epigastric incision and held eight inches in front of the body.

DISCUSSION

DR. MAURICE H. RICHARDSON, Boston: I have observed a case in which the appendix, the gall-bladder, the liver and the ileocecal valve were on the left side, the spleen on the right side, and the heart on the right side.

DR. EMMET RIXFORD, San Francisco: I would put on record a case of failure of rotation of the primary gut. The explanation of this condition is probably to be explained on the basis of adhesions of the cecum to the parietal peritoneum the result of a fetal peritonitis.

DR. LEONARD FREEMAN, Denver: I had a case in which acute dilatation of the stomach followed an unimportant pelvic operation, and which at autopsy showed the duodenum passing directly beneath the liver.

(To be continued)

AMERICAN ORTHOPEDIC ASSOCIATION

Annual Meeting, held in Washington, D. C., May 3-5, 1910

(Concluded from page 1996, Vol. LIV)

Officers Elected

The following officers were elected: President, Dr. Albert H. Freiberg, Cincinnati; vice-presidents, Drs. A. R. Shands, Washington and Robert B. Osgood, Boston; treasurer, Dr. G. G. Davis, Philadelphia; secretary, Dr. Ralph R. Fitch, Rochester, N. Y.

SYMPOSIUM ON SCOLIOSIS

Treatment of Structural Scoliosis

DR. WALTER TRUSLOW, Brooklyn: In my opinion the embarrassing and health-depleting conditions of the severely scoliotic patient should be vigorously attacked. I do not consider either prolonged rest or vigorous gymnastic treatment adequate to overcome structural changes. There is considerable room for improvement in methods of treating these cases, and an analysis of the deformity into its component elements, with regard to the degree of each, would lead to a better understanding of the cases in hand, and would point out the method of correction to be used. Frequently changed plaster-of-Paris jackets with large windows are employed because of their cheapness and the adaptability of the material.

Apparatus for the Treatment of Scoliosis During Sleep

PROF. FRITZ LANGE exhibited a brace that he had devised for this purpose, thus preventing patients from losing at night all the good that they have acquired in the day time.

DISCUSSION

DR. R. H. SAYRE, New York: Patients who are badly deformed cannot be cured, but a great deal can be done to ameliorate the condition of such patients. In a good many cases we do not exert our force as we should. We do not exert a rotating force to the vertebræ. The result of applying the pad in Professor Lange's apparatus and in Dr. Truslow's method of treatment is to cause a lateral, instead of a rotating pressure. Dr. Lange is right in saying that to correct the spine for six hours and leave it to get crooked sixteen hours during the night is useless. If we stop the brace at the axilla we leave the upper part of the body very much unprotected. I believe that not enough stress has been laid on preventing cases from becoming scoliotic from anterior poliomyelitis in which the thorax is involved, by means of traction on the head for a long time.

DR. A. H. FREIBURG, Cincinnati, showed an apparatus for measuring scoliosis. It combines in one instrument the work formerly performed by two imported instruments, and is cheaper for Americans to obtain.

Dr. Truslow, Brooklyn: I was very much pleased to hear that Dr. Lange appreciates the necessity for the fixation treatment in scoliosis. It seems as if the tendency were certainly toward that method of treatment.

SYMPOSIUM ON POLIOMYELITIS

The Relation of Poliomyelitis to the Community with Reference to Etiology and Prevention

Dr. Robert W. Lovett, Boston, read an exhaustive paper on this subject, illustrated with charts containing statistics gathered from the Massachusetts epidemic that occurred last year. The following facts were mentioned:

Outbreaks of infantile paralysis have greatly increased in various parts of the world within the last five years, in a measure not to be explained in any way by the increased interest in the disease. It is apparently more prevalent in warm than in cold countries. From the northern part of the United States more cases have been reported than from other parts of the world. We no not know by what channel the disease enters the body, nor how to prevent its spread. Careful investigations have been made, including a house to house canvass in infected districts, made by competent medical men, giving their whole time to the investigation.

The Clinical Aspects of Poliomyelitis: Types; Communicability; Mortality

Dr. L. Emmet Holt, New York: The disease varies greatly in its communicability at different times, and these differences cannot yet be reconciled. It often demands strict quarantine. Healthy persons may be carriers of infection, which may occur at a considerable time after contact with active cases. There is no evidence of the existence of any other medium of contagion than contact with persons suffering with the disease or those exposed to it. A new name for the disease should be sought, and I suggest the term epidemic myelitis or epidemic myelo-encephalitis.

Experimental Epidemic Poliomyelitis and Its Relation to Human Beings

Dr. Simon Flexner, New York, presented a report on the experimental study of poliomyelitis in monkeys, giving facts relating to the spontaneous disease in man, covering the work recently reported in The Journal.

Paralysis of the Neck and Diaphragm in Poliomyelitis

Dr. Irving M. Snow, Buffalo: Neck paralysis in combination with loss of power in the extremities is not unusual in poliomyelitis, but isolated neck paralysis is extremely rare. Paralysis of the diaphragm is scarcely mentioned in treatises on poliomyelitis, except in connection with the fatal type of Landry's paralysis. From my study of the literature on the subject, the following conclusions may be drawn: 1. Poliomyelitis affecting the origins of the phrenic and spinal accessory nerves is rare, but in the two reported cases recovery occurred. 2. Paralysis of the neck muscles occurs occasionally in epidemic poliomyelitis and severe Landry's paralysis. The prognosis is favorable as to restoration of function; some improvement always takes place. 3. Paralysis of the diaphragm is exceptionally seen in poliomyelitis; and although this is dangerous, recovery is possible.

Pathology of Poliomyelitis

Dr. Israel Strauss, New York: The rapid disappearance of the extensive paralysis often present, even in sporadic cases of poliomyelitis, is probably due to a subsidence of the inflammatory edema that has interfered with the conductivity of the nerve-fibers, a similar condition being found in the collateral edema causing paraplegia in Pott's disease. Many of the cells at any particular level of the cord are either not at all or very slightly affected and probably undergo a rapid restoration of function. Sporadic cases rarely have symptoms referable to the meninges, probably because the virus is not virulent enough to cause the final infiltration of the fatal cases. The extent of the paralysis gives no idea of the extent of the lesion. The bulbar cases may have cord involvement, and yet no symptoms of it. In every case in which the cord is affected, there are some inflammatory changes in the bulb, even though no symptoms are present, as even in those cases in which death is due to respiratory failure an examination of the bulb shows an increasingly intense inflammation extending up into the basal ganglia, and yet causing no other symptoms than paralysis of the motor nucleus of the nasal and glosso-pharyngeal nerves. In the vast majority of cases the physician is handicapped by his inability to recognize the disease.

The Treatment of Poliomyelitis

Prof. Fritz Lange, Munich: In the early stage of the disease one should try to prevent the extension of the seat of the infection into the spinal column, and holding the affected organ still is a most important requirement for speedy recovery. After the acute stage has passed a second task devolves on the orthopedist, to assist the restoration of the paralyzed muscles and prevent the occurrence of contractions. The nourishment of the affected muscles by the blood can be favored by the application of stimulation; but I warn physicians against the use of rough, hard massage, or of hard apparatus. Most patients are content with the relief afforded by the use of apparatus, and will not submit to operation; but I have seen undoubted success obtained by operative treatment. Patients are often troubled by stiffness of the foot in walking over irregular ground, and I therefore sought an operation that would retain the movements of the foot to 90 degrees, and only restrain the dangerous sinking of the foot beyond this point. In performing this operation artificial ligaments of silk were used and I think the results will be good. Transplantation of the tendon takes the place of arthrodesis.

The chief advantages of the operation are that, with careful after-treatment, the patients are able to walk without apparatus or danger of relapse, and with normal function of the transplanted muscle. The profession will soon learn to distinguish better between the indications for arthrodesis and those for transplantation of tendons. The latter operation, having already brought benefit to countless patients, may be considered among the greatest advances in orthopedic surgery.

DISCUSSION

Dr. Bernard Sachs, New York: Although the pathological conditions show that there is much more than a mere anterior poliomyelitis in the disease called by this name, I think it is well to retain that designation, which is so well known, as the lesion is largely in the gray matter. In the treatment of these cases of infantile spinal paralysis I believe the time given to massage and electricity to be practically wasted. I will not say that this method of treatment does harm, but in my experience I cannot put my finger on any definite good done by it. I believe that more good will be done by the early institution of orthopedic measures. I trust that the bloodless and the bloody surgery will be applied to these cases; and the earlier the period, the better will be the results. The so-called atypical forms of poliomyelitis are so rare compared with the typical that we should not allow our conception of the disease to be disturbed by the occasional occurrence of atypical cases.

Dr. H. Winnett Orr, Lincoln, Neb.: I have been endeavoring to collect as much information as possible regarding the epidemic that recently occurred in Nebraska. There were over six hundred cases. I have records of 619, concerning two-thirds of which I have been able to obtain detailed information.

Muscle-Group Isolation and Nerve-Anastomosis in the Treatment of Paralyses of the Extremities

Dr. Nathaniel Allison and Dr. Sidney I. Schwab, St. Louis, considered briefly the position now occupied in the treatment of the paralyses of the extremities by peripheral nerve surgery as compared with that of muscle and tendon transference, and laid stress on the importance of tabulating cases of paralyses of the extremities in terms of nerves rather than in terms of muscles or deformities. Cases of athetosis and spasticity were treated by muscle-group isolation only; flaccid paralyses, by muscle-group isolation and nerve-anastonosis and cases with complicated tic movements, by induced paralysis. Illustrative cases of each of these groups were cited.

DISCUSSION

Dr. Sidney I. Schwab, St. Louis: The alcohol injections in spastic cases are not curative. All that we attempted was temporarily to throw out of action the antagonistic muscle. The opposing group is meanwhile exercised with massage; so that by the time the original nerve regenerates, the muscular force has been somewhat transferred to the opponent group. A great advantage, also, is that the patient can be up out of bed within a few days. There is no necessity for the wearing of a plaster cast. In the second group of cases the operation of throwing out of action the antagonistic pull was very effective. By the time the nerve regenerates, the antagonistic muscle has not regained its original force. The third class of cases, tics, can be attacked in a much better way than ever before by surgical treatment. In one case, while three nerves were alcoholized and thrown out of function, and there was complete anesthesia to touch and pain, no trophic disturbance appeared in any part of the arm.

Dr. B. E. McKenzie, Toronto: Will Dr. Allison tell us some particulars regarding the technic and the strength of the alcohol used in the injections?

Dr. G. G. Davis, Philadelphia: To my mind, the alcohol injection of nerves is similar to the division of nerves. After the nerves unite they resume their functions; and after the effects of the alcohol wear off they also resume their functions. If they do not resume their functions absolutely after alcoholization, there is an advance over division; but I do not think that we have had sufficient results shown yet to demonstrate that regeneration of the nerve does not take place entirely, or to what extent it fails to return. In regard to treatment by means of nerve anastomosis, I think that we must wait longer before we can determine the value of that method of treatment.

Dr. Virgil P. Gibney, New York: If these gentlemen can, by attacking the nerves, destroy them for a number of months, they can develop the opposing muscles during that time; and this cannot be done with the use of plaster of Paris. If the children are going around, their education can be carried on; so it seems a wonderful advance in the therapeutics of spastic paralysis.

Dr. Walter G. Stern, Cleveland, O.: Whatever operation you do for athetosis, the movements return after awhile. Amputate the arm below the shoulder and the shoulder will move.

Dr. N. Allison, St. Louis: We varied the strength of the alcohol to a certain extent. It must be 50 per cent. to have any effect. Some patients had more lasting paralyses than others. I think that the percentage of alcohol may have something to do with this. I have used straight alcohol in some cases.

VACCINE THERAPY

The Indications for and the Uses of Vaccine Therapy in Orthopedic Diseases

Dr. Charles F. Painter, Boston: There is no well-established theoretical ground for the belief that, in gonorrheal and tuberculous joint infections vaccines can play a curative rôle. Very little progress has been made as regards either the diagnosis or treatment of chronic non-tuberculous infections. The complement-binding reaction in the diagnosis of syphilitic bone and joint infections has stood the test of practical experience very well. There is reason for thinking that the future treatment of these conditions will be much facilitated by vaccine and serum therapy, although the results of this are not yet even comparable to those obtained from the use of Marmorek's serum in the treatment of tuberculous arthritis. The efforts of the members of the association should be directed to the perfection of methods of putting into practice a test for which there seems to be so much theoretical and experimental justification; but statistics, however favorable, are undesirable, unless there is indisputable ground for the claim that the results recorded can be obtained under no other form of treatment.

Investigations as to the Value of Tuberculin in the Treatment of Tuberculous Joint Disease at the Home for Destitute Crippled Children at Chicago

Dr. John Ridlon, Chicago, gave the details of these investigations, which were first by Wright's opsonic method and later by the so-called clinical method. His conclusions were that tuberculin administered by the clinical method in harmless doses was useless; and that in larger doses it was both dangerous and harmful.

DISCUSSION

Dr. V. P. Gibney, New York: May I present an optimistic report? During the past winter my staff used streptococcus and staphylococcus serum in cases of tuberculous sinus, but have not used tuberculin. In half a dozen of these cases the sinus has been permanently closed. I quite agree with Dr. Painter that these patients do improve at first under almost any form of treatment.

Dr. J. K. Young, Philadelphia: We have had very good results in Philadelphia in treating tuberculous sinuses by means of autogenous serums. It is important to use the autogenous method and the opsonic index, and not to employ the clinical method.

Dr. A. H. Freiberg, Cincinnati: Tuberculin is not the toxin of the tubercle bacillus, but a means of calling forth in the body the production of an increased amount of this toxin. In order to cure tuberculosis by the vaccine method we should have to use the toxin of the tubercle bacillus. At the same time tuberculin is entitled to a fair test. Evidence is pretty conclusive that in joint tuberculosis it is the bovine form of the tubercle bacillus that is present. If that is true we should use bovine and not human tuberculin in these cases. I have had excellent results from the use of Marmorek's serum, the only difficulty being that it is hard to get and very expensive.

Dr. Clarence L. Starr, Toronto: In Toronto we have dropped the use of tuberculin in joint or sinus cases, because we obtained no results from its use. The opsonic index is absolutely useless, as it varies materially in children as the result of autointoxication. In mixed infections we have adopted the use of staphylococcus, and occasionally streptococcus serum, with sufficiently good results to warrant us in continuing their use. We have equally good success, whether we use stock vaccine or vaccine prepared from the patient himself.

Dr. S. J. Hunkin, San Francisco: It seems to me that the results obtained by the use of vaccines in the treatment of bone tuberculosis depend purely on the temperament of the man employing them.

Dr. Charles F. Painter, Boston: I purposely said nothing about mixed infections, but I believe that the only satisfactory results have been obtained in that sort of cases.

Further Observations on the Pathology of Joint Tuberculosis, and Practical Deductions Therefrom

Dr. Leonard W. Ely, New York: Only two elements of joints are subject to tuberculosis: the synovial membrane and the red marrow of the bone as shown in the specimens of tuberculous joints here exhibited. In the sixty cases from which these specimens were taken, there were thirty-five errors in diagnosis. Tuberculosis might exist in one spot in a joint and not in another, repair and invasion going on simultaneously in different parts of the same joint. The way to cure the process is to deprive the joint temporarily of motion, but this is seldom successful in adults. In adults, therefore, it is necessary to deprive the joint of motion permanently. The presence of bone marrow and of synovia depends on their function; and when function is stopped they disappear. The disease, having nothing on which to feed, disappears also.

DISCUSSION

Dr. J. K. Young, Philadelphia: The occurrence of syphilis preceding tuberculosis in the same individual is interesting, because I have seen tuberculosis in individuals who previously suffered from syphilis.

Dr. M. M. Shaffer, New York: I should like to know whether the initial lesion is in the synovial membrane or the bone marrow.

Dr. Fred H. Albee, New York: It has been noted in my observations that it is not necessary to remove all the infected tissue from the knee joint in order to obtain a good result.

Dr. Wallace Blanchard, Chicago: I have been surprised at the number of cases of old resected knee joint that have come to me with a history of having been healed for two or three years, and afterwards developing sinuses. I question very much whether excision of the knee joint modifies the progress of the disease except temporarily; and it more than quadruples the deformity.

Dr. G. G. Davis, Philadelphia: Would Dr. Ely, as soon as practicable after he has made a diagnosis of a distinct case of synovial tuberculosis in an adult, proceed to resection—that is to say, such resection as he does, which, as I understand it, is nothing more than an arthrodesis in which he takes off the cartilage in order to get immobility?

Dr. R. R. Fitch, Rochester, N. Y.: I think that Dr. Ely would accomplish the doing away with function more quickly, if he would put on a bone plate, or sink screws and apply strong wires, for the purpose of obtaining bony apposition.

Dr. L. W. Ely, New York: Dr. Young did not understand me aright. At first I thought it a case of syphilis, and then one of osteomyelitis; it turned out to be tuberculosis. Regarding the origin of the disease, I think that in adults it is equally common for it to start in the synovia and in the bone. If it starts in one, it may never involve the other; but the general rule is that after it starts in one it involves the other before long. I cannot diagnose the synovial from the bony type, but I can make a fairly good guess at it. I think that the synovial disease is characterized by less atrophy, milder symptoms, less tendency to deformity, and a slower course. When I diagnose synovial tuberculosis I tell the patient that I will recommend that he have his joint put up in plaster for six months, in case of a mistake in the diagnosis; and that at the end of that time I shall probably have to resect the joint. Bone plates are not necessary. Usually the two ends of the joint lock tightly together, and there is no tendency to mobility.

Osteochondritis Desiccans

Drs. Albert H. Freiberg and Paul G. Woolley, Cincinnati: Koenig has maintained the existence of osteochondritis as a distinct entity and as the cause of joint mice, excepting those produced by arthritis deformans. [They reported a case in which operation and pathological investigation furnished corroboration of Koenig's views, but in which certain new aspects were added.] The great interest in our case lies in the fact that three varieties of joint changes were found going on in one joint at the same time, apparently depending in their reciprocal relation on the vascular changes. We do not think that the types of chronic deforming joint affections can be looked on as separate and distinct diseases. The future will disclose the etiological factors that determine the prevalence of this or that type in a give case.

DISCUSSION

Dr. C. F. Painter, Boston: It does not seem to me that these *x*-rays are suggestive of the appearances in the ordinary cases of chronic hypertrophic osteoarthritis. The explanation may be that these appearances were the result of the vascular changes present at the same time.

Dr. Woolley, Cincinnati: I do not think that we have proved anything by the small amount of work we have done, but I do think we have some basis for supporting the work of Wollenberg. It was interesting that we could get these various changes in one case—changes that appeared like those described by other men in various forms of atrophic and hypertrophic joint disease.

Dr. A. H. Freiberg, Cincinnati: I did not mean to convey the impression that these appearances were like those we see usually in radiograms of hypertrophic arthritis. The interest lay in the fact that we had a case in which free bodies had formed, and were apparently still forming; and in which a second kind of free bodies had apparently formed on other occasions. When we came to examine the changed synovial membrane of these joints, we found changes in accord with the changes described by Wollenberg in cases that were typical of hypertrophic arthritis; and it seemed to us that these two things must be brought into correlation, and that some explanation of this character is to be found for these cases in the *osteochondritis desiccans* of Koenig.

Syphilis of the Bones and Its Bearing on Hypertrophy and Atrophy

Dr. S. L. McCurdy, Pittsburg: Syphilis is a factor in the majority of cases of bone disease of all varieties. Hypertrophies and atrophies should have a reclassification, with the causative factor as the basis, rather than the pathological end. In tuberculous disease of the bones the bones are always atrophied; while in syphilitic bone disease they are always hypertrophied and also eburnated, with exostoses. There is always a spindle enlargement, and not only a hyperostosis, but an endostosis. Charcot's disease is in many instances syphilitic, because it melts away under constitutional treatment. Saber-tibia I also consider to be always syphilitic. The objects of operation in syphilitic bone disease are to liberate pus, to relieve pain, and to remove sequestra. One should excise but never destroy tissue. I approve of the use of iodid of potash, but not of mercurial inunctions, and mechanical treatment should be employed just as in ordinary tuberculous bone disease.

DISCUSSION

Dr. Leonard W. Ely, New York: While I believe that syphilitic bone disease in cases diagnosed as tuberculosis has existed, I think it is comparatively rare. The statement that the lesions of tuberculosis are always atrophic is also an error, nor is the therapeutic test decisive.

Dr. S. L. McCurdy, Pittsburg: I did not expect very many to agree with me. I think that these statistics that I have been collecting for a number of years are sufficient ground for me to continue my plan of treatment, because I have usually cut short the course of the disease by employing iodid of potash.

Coxa Vara

Dr. Wallace Blanchard, Chicago: The two cases of sadly deforming coxa vara here reported may help to clear up some questions of differential diagnosis. I object to the statement that coxa vara is due to tuberculosis, as I have found rachitic coxa vara greatly in excess of all other types. This might, however, be due to my special line of work, the correction of knock-knees. Treatment of the deformity during its progress is very unsatisfactory; but when the disease has run its course, osteotomy for the elevation of the head of the femur and for the relief of the adduction deformity gives good results.

DISCUSSION

Dr. G. G. Davis, Philadelphia: I would suggest that the first case was analogous to cases of subluxation of the wrist, which occur in adolescents and young adults, and in which the wrist is distorted, especially the lower end of the radius. This disease is probably due to rickets.

Juxta-Epiphyseal Fractures of Hip and Shoulder

Dr. Fred H. Albee, New York discussed the diagnosis and the frequency of occurrence of juxta-epiphyseal fracture of the upper end of the humerus and femur, and said that faulty diagnoses are frequent. He took into consideration the different elements displacing the fragments, and laid stress on the importance of the use of position in fixing the long, or controllable, fragment in alignment with the short, or uncontrollable, fragment. Several illustrative cases were cited.

DISCUSSION

Dr. H. Winnett Orr, Lincoln, Neb.: The tracing of one of Dr. Albee's cases might have been taken for the plate of one of my patients. I immediately placed this boy in the sort of plaster dressing described by Dr. Albee, but took the liberty of extending it a short distance farther, so as to include the hand.

Dr. Frank R. Peckham, Providence, R. I.: It should be recognized by the profession that these fractures should be treated by orthopedists rather than by general surgeons. Regarding fractured neck of the femur, if you put every such fracture in extreme abduction, you will not always have the fragments in perfect apposition. The correct angle should be determined by the *x*-ray. Dr. Albee has demonstrated the application of the same principle to fractures of the upper extremity. When these fractures are treated in bed you can begin passive motion and massage early. Then, when you have union, you have the functional result also.

Dr. S. J. Hunkin, San Francisco: My experience has shown that not in every case can the fragments be held in apposition in a position of extreme abduction; and in two or three instances I have found it absolutely impossible to hold them in apposition, regardless of any position that was taken by the leg. It is also sometimes impossible to tell whether the fragments are in apposition or not, even by means of the *x*-ray. I think that practically all fractures of the femur should be cut down on. The fragments should then be found to be replaced by the finger and eye, and fastened with some metallic suture. The splint used at first should be one that will allow you to see the part.

Dr. Albee, New York: I want to emphasize the difficulty of holding the epiphyseal fragments of the humerus. An epiphyseal fracture is held much more firmly by this method than is one of the neck, although it will usually hold the latter.

SYMPOSIUM ON THE FOOT

Relaxation of the Annular Ligament of the Ankle-Joint as a Cause for Weak Foot and Flat-Foot

Dr. J. Torrance Rugh, Philadelphia: I have for some years been inclined to believe that the cause of weak feet and flat-feet lies in the lower portion of the annular ligament, which performs three distinct functions in the economy of the foot. It binds down the tendons of the tibialis anticus and the extensor proprius hallucis, and keeps them tense; it acts as a sling for the support of the dorsalis; and it takes up the slack in the plantar fascia, when the tibialis anticus and the dorsal flexor of the great toe contract. It, therefore, not only has important functions of its own, but it also assists the neighboring structures in the performance of their functions; and if they become relaxed, the strain on this portion of the ligament increases, and it may give way. For this reason, it should be considered in cases of weak or flat foot.

Osteophytes of the Os Calcis

Dr. J. D. Griffith, Kansas City, Mo.: Bacteria are not necessary to the production of a deposit of bone by the periosteum, but constant irritation and pressure may easily inaugurate a *locus minoris resistentiæ* and cause osteoblastic deposition, especially when perverted metabolism is added. This thickened condition or deposition of extra bone is frequently the cause of painful feet. The horseshoe incision is the only one that is entirely satisfactory and devoid of the possibility of causing future trouble.

An Operation for the Relief of Anterior Metatarsalgia, Including Morton's Disease

Dr. A. Mackenzie Forbes, Montreal: This condition is primarily due to abnormal laxity of the ligaments and the transverse metatarsus muscle, allowing the falling of one or more metatarsal heads. The pressure of the displaced bone on the soft tissues beneath it is the cause of the pain, which may later become exaggerated by the formation of a callus on the weight-bearing skin. Secondarily, a mild form of arthritis sometimes supervenes. As the second, third and fourth metatarso-phalangeal joints are supplied by the external branches of the anterior tibial, which motor nerve supplies the extensor longus digitorum, spasm of this muscle often results, causing hyperextension of the phalanges of the affected joints. When chronic, this hyperextensison is often followed by a dorsal subluxation of the phalanx; and this tends to depress the heads of the affected metatarsals against the adjacent soft tissues. The only difficulties in the operation proposed for the relief of this condition are those connected with the attachment of the extensor tendon to the depressed heads and the guarding against a low form of infection, which may destroy the attachment. The first difficulty is overcome by raising the head by direct pressure from below.

Problems in the Treatment of Club-Foot

Dr. W. G. Stern, Cleveland, Ohio: When not due to faulty technic in applying the plaster cast, a decubitus occurring on the dorsum of the foot is due to cutting off the arterial supply of the arch afflicted; and the cyanosis of the toes is due to a damming back of the venous return. Both of these untoward occurrences are caused by the compression of the soft tissues of the dorsum from over-correction. The relief of this condition may be brought about by reducing the over-correction and fixing the foot in a less extreme position. The amount of correction practicable at any one sitting is primarily dependent on the circulation, and is often considerably less than the maximum. For the best results in club-foot, a maximum over-correction must be secured; but this should not be done at one sitting. The circulation in this, as in other forcible operations, should control the amount of correction obtainable at any one sitting; and if the latter is not sufficient for a permanent cure, the correction must be repeated at suitable intervals until the maximum over-correction can be safely maintained.

Flat-Foot. Mid-Tarsal Valgus

Dr. E. H. Bradford, Boston: The foot changes shape under different static conditions, and there is difficulty in checking the inward sag and twist. After operation in order to regain suppleness and strength, daily exercise is a necessity. It is important to correct joint stiffening and restore muscular strength. Supports are beneficial but not curative.

DISCUSSION

Dr. H. P. H. Galloway, Winnipeg: I have used Dr. Griffith's incision with more satisfaction than the simple linear incision. I never employ the latter on the center of the heel. The operation described by Dr. Forbes is an exceedingly ingenious application of an operation employed by all of us for other conditions. I have frequently transplanted the extensor tendons of the toes to overcome the closed condition of the toes met with in static paralysis, and to secure more power of dorsal flexion by transplanting these tendons from a very movable to a fixed point. I have devised a simple instrument that automatically centers the drill in making holes in bones of very small diameter. There is then no possibility of the drill's slipping. I have always succeeded in relieving metatarsalgia by mechanical means. If I find a case that I cannot relieve in this way, I will adopt this operation.

Dr. G. G. Davis, Philadelphia: I should like to call attention to resection of the head of the metatarsal bone for metatarsalgia. Morton did this, and not infrequently found that it destroyed the stability of the toe. Later, he often performed amputation of the toe. Therefore, it would be interesting to know whether in Dr. Forbe's procedure the tendon of the extensor brevis is sufficient to maintain the toe in a straight line.

Dr. S. L. McCurdy, Pittsburg: I want to speak of a method that I have used when the tendons are taken from the foot. I take from the toes tendons long enough to wrap entirely around the foot in cases of closed toe. They are brought back and sutured to themselves. This gives a perfectly stable anchorage.

Dr. Young: I have had occasion to perform the Morton operation several times, and have always had to remove the toe. The statement has been made that it is not necessary to operate on these cases. As a man's experience increases, he will find that some of these cases will require operation; and that of Morton is perfectly satisfactory.

Book Notices

Preparatory and After Treatment in Operative Cases. By Herman A. Haubold, M.D., Clinical Professor in Surgery and Demonstrator of Operative Surgery, New York University and Bellevue Hospital Medical College, New York. Cloth. Price, $6. Pp. 650, with 429 illustrations. New York: D. Appleton & Co., 1910.

The author intends his book to furnish a source "from which the practitioner can draw information with regard to the handling of a patient to be operated on from the time the decision to operate is reached up to the making of the incision," taking up the case again from the time the operative technic is ended until recovery is complete.

The unjust relations which often obtain between the surgeon and the man who sends him the case are deplored, conditions which have resulted in loss of the family to the practitioner, or to a division of fees. To the end that these conditions may be improved, the author very commendably would educate the general practitioner in surgical technic, make him a closer ally of the surgeon and keep him in closer touch with his patient. There will, however, be some hesitancy on the part of surgeons to assume the responsibility for some one who has not the knowledge nor the experience to manage properly the preparation and after-care.

Where the operating is done in the country or in private homes, it is conceivable that a book of this kind can be invaluable to both practitioner and surgeon. For this purpose, however, the author covers too wide a field, going into operative technic and other details which are beyond the subject, according to his introductory declaration. Why should there be thirty pages descriptive of a hospital operating-room? Why should so much space be devoted to the suturing of wounds? As for catgut, the busy practitioner would scarcely be in a position to prepare catgut of sufficient reliability to recommend itself to the average surgeon. The author might have sacrificed some of the detail, and emphasized the great fundamental principles involved in surgery, preparatory and postoperative. He gives in detail the preparation of the patient, the instruments, dressing and suture material. Then follow chapters on the suturing, drainage and dressing of operative wounds. The methods are well illustrated and follow the newest technic. The treatment of postoperative vomiting, thirst and pain and the important question of feeding are admirably handled.

A discussion follows of operations in different regions, namely, head, neck, thorax, abdomen and extremities; also the pelvic and genitourinary organs. There is a good chapter on artificial limbs.

This book is more than a guide for the general practitioner; it contains much valuable information for the surgical assistant, and even for the surgeon himself. The text is carefully written and illustrated profusely with many original photographs. The mechanical side has been very well taken care of by the publishers.

Appleton's New Practical Cyclopedia. Edited by Marcus Benjamin, Ph.D., Editor of the United States National Museum, Washington, D. C., assisted by Arthur E. Bostwick, Librarian of the St. Louis Public Library; Gerald Van Casteel, Chief of Editorial Staff; George J. Hager, Expert Compiler and Statistician, with an Introduction by Elmer E. Brown, Ph.D., United States Commissioner of Education. In Six Volumes. Cloth. Price, $18 the set. Pp. 3000 (about). New York: D Appleton & Co., 1910.

In the introduction Commissioner Brown says: "It is one province of works of reference to supply, to a reasonable degree, the definite and elementary information which will enable any ordinary reader to make good his individual lack of knowledge on any subject of ordinary discussion." An examination of this work in six volumes, as compared with the "Universal Cyclopedia" of the same publishers in twelve volumes, shows that this decrease in volume has been secured by leaving out many subjects contained in the longer work and by condensation and abbreviations of others. The publishers say that an attempt has been made to give the descriptions of technical things in language that may be easily understood by any one. The work is, of course, intended for those who cannot afford to own and have not access to the larger and more exhaustive works of general reference, and should be judged on that basis. While condensation has been carried to a degree which will strike one familiar with the larger encyclopedias as excessive, this work will be useful to those who need more frequently to find some particular item of information than to find exhaustive information on some broad subject. Its plan of arrangement makes it easy of consultation. The index with analytical cross-references, and the group, or synthetical, index, are good features.

The book is mechanically well executed. The illustrations are for the most part identical with those used since cyclopedias were first made, but in addition there are some halftone photographic reproductions and a number of admirable colored plates.

Remedial Gymnastics for Heart Affections used at Bad-Nauheim. By Dr. Med. J. Hofmann and Dr. Med. L. Pohlman. Translated by John G. Garson, M.D., Edinburgh, Physician to Sanatoria and Bad-Nauheim, Eversley, Hants. Cloth. Price, 5 shillings. Pp. 128, with 42 illustrations. London: Swan Sonnenschein & Co., 1909.

The authors briefly refer to other systems of gymnastics used in heart diseases, but do not discuss them. The second chapter, which is one of the most important in the book, is a reprint of an article by Professor von Romberg, and tersely but fully describes the indications for and against the use of gymnastics in these affections. The succeeding chapters relate to methods of estimating the effect of gymnastics on the heart. The authors urge that no one method be relied on fully, for no single one will afford the needed information in every case. The effect on the pulse and the inferences to be adduced are first considered; then the effect of gymnastics on blood-pressure and on the size and shape of the heart, as shown by auscultation, percussion and *x*-ray, are discussed. Sommer's analysis of movements is highly commended as a means of determining fatigue of the heart muscle. This is a mechanical contrivance which registers on a moving paper tremors in all directions of a leg held horizontally without support. The various ways in which gymnastics can be used and their order are next considered. Nearly one half of the volume is devoted to illustrations and brief descriptions of the movements which constitute the Nauheim exercises.

This book is a commendable exposition of the Schott exercises used at Nauheim.

Studies in Immunity. By Professor Paul Ehrlich, Privy Councilor and Director of the Royal Institute for Experimental Therapy, Frankfurt, Germany, and his Collaborators. Collected and Translated by Charles Bolduan, M.D., Bacteriologist, Research Laboratory, *Department of Health, City of New York. Second Edition. Cloth.* Price, $6. Pp. 712. New York: John Wiley & Sons, 1910.

It reflects no little credit on the condition of medical science in America that so technical a work as this translation of the collected papers of Ehrlich and his collaborators has exhausted the first edition in less than four years. The translator has taken advantage of the opportunity, in this second edition, to add eight of the more recent papers, on the following topics: "The Multiplicity of Antibodies Occurring in Normal Serum," "The Binding of Hemolytic Amboceptors," "The Joint Action of Normal and Immune Amboceptors in Hemolysis," "The Power of Normal Serum to Deflect Complement," "The Joint Action of Several Amboceptors in Hemolysis," "Studies in Amboceptors," "Dissociation Phenomena in the Toxin-Antitoxin Combination," and "The Partial Function of Cells," the last being Ehrlich's Nobel Prize lecture. The absence of an index constituted a defect of the first edition which has been remedied in the second, and this will add much to the usefulness of the work. American medicine is much indebted to Dr. Bolduan for his service in rendering these masterpieces accessible to a larger audience than they could reach in their original vehicle.

Twenty-Eighth Annual Report of the State Department of Health of New York. For the Year Ending Dec. 31, 1907. Volume II, *Report of the Sanitary Engineering Division.* Cloth. Pp. 869, with illustrations. 1908.

The second volume of the twenty-eighth annual report of the New York State Board of Health contains the report of the chief engineer, Theodore Horton, on sewerage and sewage disposal of the towns of the state, giving diagrams, illustrations and explanations of a large number of plants for sewage disposal. He shows that a great many towns of the state are adopting modern methods of treatment by settling-tanks, septic tanks and filter or contact beds. The reports on the preservation of public water-supplies, the investigation of stream pollution and watersheds and the sanitary inspections of summer resorts, with the report to Governor Hughes of investigations ordered by him on the pollution of the upper Hudson and other streams, all go to show that New York has good laws and is well in advance in sanitary matters involving engineering problems. The report should be a valuable one to sanitarians and health boards as showing the method of handling the numerous difficult problems that come up in questions of state-wide sanitation.

[illegible] CIPLES OF METHODS OF ANALYTICAL CHEMISTRY [illegible] REACTIONS. By M. G. Chesneau, Ingénieur [illegible] Authorized Translation by Azariah T. Lincoln, Ph.D., Assistant Professor of Chemistry, Rensselaer Polytechnic Institute, and David H. Carnahan, Ph.D., Associate Professor of Romance Languages, University of Illinois. Cloth. Price, $1.75 net. Pp. 184. New York: The Macmillan Company, 1910.

The object of this work is not primarily to increase the number of methods of analytical procedure, but to increase the exactness of the methods now in use, by investigations in the light of recent physicochemical theories. The electrolytic or ionic theory appeared to the author to be in contradiction, in many cases, to facts, established by experiments; therefore another means of explanation was sought. The author discusses the chemistry of analytical reactions on the basis of calorific phenomena involved in the ordinary reactions and of the laws deduced from the principles of thermodynamics. From the nature of the theories employed it is not a handbook for the beginner but rather a book which can be employed only in very advanced work in theoretical lines.

Association News

PROCEEDINGS OF THE ST. LOUIS SESSION

(Continued from page 2090, Vol. LIV)

Section Transactions

Those who desire copies of the 1910 Transactions of any of the sections, but who are not on the permanent subscription list, should order them at once, as printing will commence soon on several. Only enough are printed to supply the demand, and each year some persons order too late to be supplied. Each volume is a cloth-bound book containing the articles and discussions in that particular section. A volume is issued for each section except the Section on Stomatology. When ordered in advance, each book costs the subscriber $1.00, payable at time of delivery.

It is to be remembered that one may give a permanent order for Transactions; and those specified are sent, from year to year, until the order is cancelled. Address orders to the American Medical Association, 535 Dearborn Avenue, Chicago.

Minutes of Sections

The minutes of the proceedings of the sections at the sixty-first annual session, held at St. Louis, June 7 to 10, 1910, are given below.

SECTION ON PRACTICE OF MEDICINE

TUESDAY, JUNE 7—AFTERNOON

The Section was called to order by the Chairman, Dr. George Blumer, New Haven, Conn., at 2 p. m., in the Third Baptist Church.

Dr. Max Einhorn, New York, read a paper on "Experiences with the Duodenal Contents in Man." No discussion.

Drs. Harvey G. Beck and William Royal Stokes, Baltimore, read a paper on: "A Case of Diffuse Ventriculo-Septal Myocarditis with Adams-Stokes' Syndrome."

Dr. Isaac I. Lemann, New Orleans, read a paper on "A Study of a Case of Heart-Block with Auricular Alternating Pulse." These two papers were discussed by Drs. Haven Emerson, New York, and Albert E. Taussig, St. Louis.

Dr. Seale Harris, Mobile, Ala., read a paper on "The Radical Cure of Malaria; Its Importance and How It May Be Attained." Discussed by Drs. Charles MacLellan, Chicago; Arnold Taubitz, Neelysville, Mo.; W. E. Chapman, Sheboygan, Mich.; I. J. Woelf, Kansas City, Mo.; Vernon Blythe, Paducah, Ky.; S. P. Child, Kansas City, Mo.; C. C. Bass, New Orleans; Joseph H. Pratt, Boston; G. C. Smith, Boston; J. A. Witherspoon, Nashville, Tenn.; C. Shattinger, St. Louis; R. Alexander Bate, Louisville, Ky.; Arthur C. Bell, Dallas, Tex.; I. I. Lemann, New Orleans; B. W. Fontaigne, Memphis, Tenn.; J. A. Chilton, Van Buren, Mo.; T. J. Ragsdale, Lees Summit, Mo.; D. C. Walt, Little Rock, Ark.; A. H. Vandivort, St. Joseph, Mo.; A. Comingo Griffith, Kansas City, Mo.; Seale Harris, Mobile, Ala.

Dr. W. J. Calvert, Dallas, Tex., read a paper on "A Possible Differential Sign Between Cardiac Dilation and Pericarditis with Effusion." Discussed by Drs. Haven Emerson, New York, and W. J. Calvert, Dallas, Tex.

WEDNESDAY, JUNE 8—MORNING

The Section held a joint meeting with the Section on Pharmacology and Therapeutics for the consideration of papers in a Symposium on the Circulatory Disorders in Acute Infections. For the minutes of this meeting, see minutes of the Section on Pharmacology and Therapeutics.

WEDNESDAY, JUNE 8—AFTERNOON

Dr. Richard C. Cabot, Boston, delivered the Oration on Medicine, entitled, "A Study of Mistaken Diagnoses Based on the Autopsy Findings in One Thousand Cases."

The Chairman announced that the following would serve on the Nominating Committee: Drs. George Dock, New Orleans; Seale Harris, Mobile, Ala., and Horace D. Arnold, Boston.

Dr. William F. Boos, Boston, read a paper on "Magnesium Poisoning: A Study of Ten Cases." Discussed by Drs. P. S. Roy, Washington, D. C.; W. T. Engle, Grand Island, Neb.; Nathan Rosewater, Cleveland; H. E. Dunlop, Canton, Mo.; C. C. Conover, Kansas City, Mo.; J. W. Bolton, Iola, Kan.; L. Leroy, Memphis, Tenn.; J. D. Reid, Pilger, Neb.; W. H. Philp, St. Francis, Ark.; H. R. St. John, Alton, Kan.; G. R. Neff, Farmington, Iowa, and William F. Boos, Boston.

Dr. James B. Herrick, Chicago, read a paper on "Certain Popular but Erroneous Notions Concerning Angina Pectoris." Discussed by Drs. Joseph L. Miller, Chicago; G. W. McCaskey, Fort Wayne, Ind.; Gustav Baar, Portland, Ore.; S. P. Child, Kansas City, Mo.; J. A. Witherspoon, Nashville, Tenn.; Allen A. Jones, Buffalo, N. Y., and James B. Herrick, Chicago.

Drs. Thomas A. Claytor and Walter H. Merrill, Washington, presented a paper on "Orthodiagraphy: Presentation of a Series of Diagrams of the Heart and Aorta, with Explanatory Remarks." Dr. James G. Van Zwaluwenburg, Ann Arbor, Mich., read a paper on "The Diagnostic Value of the Orthodiagram." These two papers were discussed by Drs. Sidney Lange, Cincinnati; Thomas A. Claytor, Washington, and James G. Van Zwaluwenburg, Ann Arbor, Mich.

THURSDAY, JUNE 9—MORNING

The Committee on Nominations nominated the following: Chairman, Dr. A. Allen Jones, Buffalo, N. Y.; Vice-Chairman, Dr. D. C. L. Green, St. Paul, Minn.; Secretary, Dr. Wilder Tileston, New Haven, Conn.; Delegate, Dr. J. A. Capps, Chicago; Alternate, Dr. Alexander Lambert, New York; Orator, Dr. C. F. Hoover, Cleveland.

It was moved, seconded and carried that the Secretary be instructed to cast a ballot for these nominees.

Dr. Kate C. H. Mead, Middletown, Conn., read a paper on "Persistent Patency of the Ductus Arteriosus, Stenosis of the Isthmus of the Aorta, with Degeneration of the Coronaries of the Cardiac Muscle and of the Sino-Auricular Bundle." Discussed by Dr. Wilder Tileston, New Haven, Conn.

Dr. C. F. Hoover, Cleveland, read a paper on "Regional Vasomotor Hypertonus, with a Report of a Case." Discussed by Drs. Judson Daland, Philadelphia, and C. F. Hoover, Cleveland.

Drs. L. F. Barker, A. D. Hirschfelder and G. M. Bond, Baltimore, presented a paper on "The Electrocardiogram in Clinical Diagnosis." Discussed by Drs. M. J. Lichty, Cleveland; John H. Musser, Philadelphia, and A. D. Hirschfelder, Baltimore.

Dr. Claude A. Smith, Atlanta, Ga., read a paper on "Hookworm Infection and its Prevention." Discussed by Drs. Henry B. Ward, Urbana, Ill.; B. B. Bagby, West Point, Va.; C. C. Bass, New Orleans; Morgan Smith, Little Rock, Ark.; William Letterer, Nashville, Tenn.; John William Colbert, Albuquerque, N. M., and Claude A. Smith, Atlanta, Ga.

Drs. Louis B. Wilson and Byrd C. Willis, Rochester, Minn., read a paper on "Pathologic Relationship of Ulcer and Carcinoma of the Alimentary Canal." Discussed by Drs. H. E. Robertson, Minneapolis; J. N. Hall, Denver; Frank Wilbur Foxworthy, Indianapolis; D. C. Walt, Little Rock, Ark.; Charles G. Stockton, Buffalo, N. Y.; Richard Weil, New York; John A. Lichty, Pittsburg, Pa.; Abraham Jacobi, New York; Hugo A. Freund, Detroit; Harvey G. Beck, Baltimore; G. C. Smith, Boston; Frank Smithies, Ann Arbor, Mich.; T. Potter, Indianapolis, and Louis B. Wilson, Rochester, Minn.

Thursday, June 9—Afternoon

Dr. H. D. Arnold, Boston, read a paper on "The Importance of a Low Protein Diet in Chronic Nephritis." Discussed by Drs. G. C. Smith, Boston; P. S. Roy, Washington, D. C., and H. D. Arnold, Boston.

Dr. W. W. Duke, Baltimore, read a paper on "The Relation of Blood Platelets to Bleeding in Certain Cases of Purpura." Discussed by Drs. J. H. Pratt, Boston, and W. W. Duke, Baltimore.

Dr. John D. Dunham, Columbus, Ohio, read a paper on "Clinical Results of Gastroenterostomy for Non-Malignant Diseases." Discussed by Drs. Judson Daland, Philadelphia; M. J. Lichty, Cleveland, Ohio; John A. Witherspoon, Nashville, Tenn.; DeLancy Rochester, Buffalo, N. Y.; A. L. Benedict, Buffalo, N. Y.; Gustav Baar, Portland, Ore., and John D. Dunham, Columbus, Ohio.

Dr. M. J. Lichty, Cleveland, read a paper on "The Influence of Perigastric Lesions on Gastric Secretions, Based on Clinical and Experimental Study." Discussed by Drs. DeLancey Rochester, Buffalo, N. Y.; James T. Pilcher, Rochester, Minn.; A. L. Benedict, Buffalo, N. Y.; G. C. Smith, Boston; Gustav Baar, Portland, Ore.; John A. Lichty, Pittsburg, Pa., and M. J. Lichty, Cleveland, Ohio.

Dr. Gustav Baar, Portland, Ore., read a paper on "Indicanuria." Discussed by Drs. DeLancey Rochester, Buffalo, N. Y.; Judson Daland, Philadelphia; Jay I. Durand, Atlantic City, N. J.; C. Shattinger, St. Louis, and Gustav Baar, Portland, Ore.

Drs. Judson Daland and George E. Pfahler, Philadelphia, presented a paper on "The Roentgen Ray in the Diagnosis of Diseases of the Alimentary Tract." Discussed by Drs. J. N. Hall, Denver; A. W. Crane, Kalamazoo, Mich.; M. J. Lichty, Cleveland, and Judson Daland, Philadelphia.

Friday, June 10—Morning

Dr. Anders Frick, Chicago, read a paper on "The Different Forms of Mediastinal Exudative Pleurisy, with Report of Three Cases." Discussed by Drs. DeLancey Rochester, Buffalo, N. Y.; Frank Smithies, Ann Arbor, Mich., and Anders Frick, Chicago.

Dr. Frank Smithies, Ann Arbor, Mich., read a paper on "The Diagnostic Significance of the Paravertebral Triangle of Percussion Dulness (Grocco's Sign)." No discussion.

Dr. Edward C. Rosenow, Chicago, read a paper on "Autogenous Vaccine Therapy in Endocarditis." No discussion.

Dr. Willard J. Stone, Toledo, Ohio, read a paper on "The Treatment of Typhoid Carriers, with Report of a Case Treated by Inoculations of Typhoid Vaccine." Discussed by Drs. John J. Buettner, Syracuse, N. Y.; James J. Terrill, Galveston, Tex., and Willard J. Stone, Toledo, Ohio.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN

Tuesday, June 7—Afternoon

The Section was called to order at 2 p. m., in Association Hall, Y. M. C. A. Building, by the Chairman, Dr. John G. Clark, Philadelphia.

Dr. William S. Gardner, Baltimore, read a paper on "Infections of the Endometrium." Discussed by Dr. Novak.

Dr. Henry O. Marcy, Boston, read a paper on "The Plastic Surgery of the Pelvic Structures." Discussed by Drs. Gilliam, Gilbert, Hayden, Hall, Shoemaker, Glasgow, Rosenthal, Hinchey and Marcy.

Dr. Sidney A. Chalfont, Pittsburg, read a paper on "Arteriosclerosis of the Uterine Vessels." Discussed by Drs. Novak and Foulkrod.

Dr. Samuel Wyllis Bandler read a paper on "An Ideal Operation for the Cure of Total Prolapse of the Uterus." Discussed by Drs. Carstens, Goffe, awrence, Baldy and Bandler.

Dr. George Erety Shoemaker read a paper on "Papillary Cystadenoma of the Kidney, Associated with Myoma of the Uterus and Spinal Caries." No discussion.

Dr. J. H. Carstens read a paper on "Uselessness of Local Treatment in Puerperal Sepsis." Discussed by Drs. Zinké, Wetherill, Boldt, Glasgow, Schwartz and Carstens.

Wednesday, June 8—Morning

The following papers were read and discussed as a symposium on observations by inventors of operations for retroflexion of the uterus:

Dr. R. C. Coffey, Portland, Ore.: "Plication of the Round and Anterior Fold of the Broad Ligament on the Anterior Surface of the Uterus for Retrodisplacement."

Dr. J. M. Baldy, Philadelphia: "Attachment of Ligaments Posterior to the Uterus."

Dr. D. Tod Gilliam, Columbus, O.: "Intraperitoneal Implantation of Round Ligaments."

Dr. F. F. Simpson, Pittsburg, Pa.: "Intraperitoneal Shortening of Round Ligaments (Simpson operation)."

Dr. A. Goldspohn, Chicago: "Shortening of the Round Ligaments Via the Temporarily Dilated Inguinal Canals Combined with the Bassini Technic in Closure of the Wounds."

Dr. E. C. Dudley, Chicago: "Resumé of the Surgical Treatment of Retrodeviations of the Uterus."

These six papers were discussed by Drs. Montgomery, Murphy, Boldt, Carstens, Barrett, Marcy, Wathen, Massey, Gellhorn, Byford, Baldy, Gilliam and Simpson.

Wednesday, June 8—Afternoon

The meeting was called to order at 2 p. m. by the Vice-Chairman, Dr. C. C. Frederick, Buffalo.

Dr. John G. Clark, Philadelphia, read his Chairman's Address entitled "Embryologic and Anatomic Causes for Obstinate Constipation in Women; Operative Methods for Relief." Dr. E. E. Montgomery of Philadelphia moved that a vote of thanks be given Dr. Clark for his very able presentation. Seconded and carried.

The following five papers were read and discussed as a Symposium on Enteroptosis:

Dr. Richard R. Smith, Grand Rapids, Mich., read a paper on "Enteroptosis, with Special Reference to Its Etiology and Development, and Remarks on the Results of Examination of 400 Women, with Reference to This Condition."

Dr. E. H. Skinner, Kansas City, Mo., read a paper on "The X-Ray in the Diagnosis of Enteroptosis."

Dr. A. W. Crane, Kalamazoo, Mich., read a paper on "Value of the Roentgen Ray in Enteroptosis."

Dr. John H. Musser, Philadelphia, read a paper on "The Physician's Viewpoint."

Dr. A. J. Ochsner, Chicago, read a paper on "The Surgical Viewpoint."

These five papers were discussed by Drs. Einhorn, Coffey, Korsell, Carstens and Crane.

Thursday, June 9—Morning

The Nominating Committee reported the following nominations: Chairman, Dr. Horace G. Wetherill, Denver; Vice-Chairman, Dr. Fred J. Taussig, St. Louis; Secretary, Dr. C. Jeff Miller, Louisiana; Delegate, Dr. A. E. Benjamin, Minnesota; Alternate, Dr. S. W. Bandler, New York.

The report was accepted and the nominees were elected.

The report of the Cancer Committee, Dr. Horace G. Wetherill, Chairman, recommended an active and educational campaign along the lines indicated in the report of the Committee of 1906, and urged anew that the Section on Obstetrics and Diseases of Women cooperate with the Board of Public Instruction on Medical Subjects [now the Council on Health and Public Instruction] in an energetic effort to educate women to an appreciation of the early signs of cancer and to the importance of an examination by a competent physician; and that all available resources be exhausted in an endeavor to impress on each member of the profession his personal responsibility for an early and accurate diagnosis of cancer and a timely removal of the growth by a competent surgeon. On motion of Dr. Dorsett the report was accepted.

Dr. J. Riddle Goffe, New York City, read a paper on "Tuberculosis of the Female Organs of Generation and the Peritoneum." Discussed by Drs. Novak, Frederick, Gilmore, Byford, Gilliam, A. Miles Taylor, and Goffe in closing.

The following four papers were read and discussed as a Symposium on Carcinoma of the Uterus:

Dr. John A. Sampson, Albany, N. Y.: "The Participation of the Glandular System and Tissues Adjacent to the Uterus in Carcinoma of the Uterus."

Dr. J. H. Jacobson, Toledo, O.: "The Results Obtained by the Radical Abdominal Operation for Carcinoma of the Uterus."

Dr. Emil Ries, Chicago: "The Diagnosis of Operability of Carcinoma of the Cervix of the Uterus."

Dr. C. C. Frederick, Buffalo, N. Y.: "Further Observations on the Use of the Cautery in the Treatment of Carcinoma of the Uterus."

These four papers were discussed by Drs. Gellhorn, Peterson, Goldspohn, Mosier, Wetherill, Jacobson and Ries.

THURSDAY, JUNE 9—AFTERNOON

The Vice-Chairman, Dr. C. C. Frederick, Buffalo, N. Y., called the meeting to order at 2 p. m.

Dr. Channing W. Barrett, Chicago, read a paper on "The Place of Hebosteotomy as an Aid to Delivery." Discussed by Drs. Zinke, Foulkrod, Fry, Burns and Barrett.

The report of the Committee on Revision of the Pharmacopeia was presented, and on motion adopted.

The following five papers were read and discussed as a Symposium on Eclampsia:

Drs. E. P. Davis and Collin Foulkrod, Philadelphia: "The Etiology of Eclampsia"; read by Dr. Foulkrod.

Drs. Edwin B. Cragin and Edward T. Hull, New York: "Treatment of Eclampsia, Including a Comparison of the Dangers of Chloroform and Ether in this Condition"; read by Dr. Hull.

Dr. Henry D. Fry, Washington: "Vaginal Cesarean Section in Eclampsia."

Dr. Reuben Peterson, Ann Arbor, Mich.: "Indications for and Technic of Rapid Emptying of the Uterus in the Toxemias of Pregnancy."

Dr. Joseph B. De Lee, Chicago: "The Surgical Treatment of Eclampsia"; read by the Secretary, Dr. C. Jeff Miller.

These five papers were discussed by Drs. Schwartz, Zinke, Carstens, Blondhe, Burns, Rosenthal, Ritter, Foulkrod, Hull, Fry and Peterson.

SECTION ON SURGERY

TUESDAY, JUNE 7—MORNING

The meeting was called to order at 2 p. m. in the Odeon Theater.

Dr. Charles H. Mayo, Rochester, Minn., the Chairman, delivered his address on "Prophylaxis of Cancer."

Dr. A. Primrose, Toronto, Canada, read a paper on "Surgical Treatment of Compression Paraplegia."

Dr. W. W. Grant, Denver, read a paper on "Anastomosis of Facial and Spinal Accessory Nerves and the Distal End of Spinal Accessory, with Descending Hypoglossal."

These two papers were discussed by Drs. J. B. Murphy, J. T. Bottomley, A. Primrose and W. W. Grant.

Dr. Henry H. Sherk, Pasadena, Cal., read a paper on "Injuries of Abdominal Viscera without External Signs of Violence." Discussed by Drs. M. H. Richardson and Hough.

Dr. E. E. Irons, Chicago, read a paper on "Present Status of Vaccinotherapy." Discussed by Drs. J. B. Deaver, A. W. Crane, W. W. Grant and E. E. Irons.

Dr. H. C. Deaver, Philadelphia, read a paper on "Appendicitis in Children, with Report of Five Hundred Cases." Discussed by Drs. L. S. McMurtry, E. Vander Veer, Lucid, M. Rosenthal, H. Tuholske and J. B. Deaver.

WEDNESDAY, JUNE 8—MORNING

Dr. E. H. Ochsner, Chicago, read a paper on "Final Results in Dislocation of the Hip." Discussed by Drs. A. J. Gillette, J. P. Lord and E. H. Ochsner.

Dr. L. W. Ely, New York, read a paper on "Tuberculosis of Adult Knee-Joint, with New Theory and Plan of Operation."

Dr. J. B. Murphy, Chicago, read a paper on "Acute and Chronic Joint Infections and their Surgical Treatment."

These two papers were discussed by Drs. J. T. Moore, Pearse, A. J. Ochsner, J. F. Binnie, L. W. Ely and J. B. Murphy.

Dr. R. Abbe, New York, delivered the Oration on Surgery, entitled "Radium: A Contribution to Surgery."

Dr. A. F. Jonas, Omaha, Neb., read a paper on "Open Treatment of Fractures." Discussed by Drs. E. W. Andrews, Pearse, J. L. Crook and A. F. Jonas.

Dr. J. T. Bottomley, Boston, read a paper on "Congenital Atresia of Ureter." Discussed by Drs. D. N. Eisendrath and S. E. Sanders.

Dr. C. A. L. Reed, Cincinnati, read a paper on "Extracapsular Fixation of Kidney." Discussed by Dr. S. Lloyd.

WEDNESDAY, JUNE 8—AFTERNOON

Dr. T. S. Cullen, Baltimore, read a paper on "Surgical Diseases of the Umbilicus." Discussed by Drs. W. D. Haggard and T. S. Cullen.

Dr. O. C. Gaub, Pittsburg, Pa., read a paper on "Traumatic Rupture of the Fixed Portion of the Male Urethra." Discussed by Drs. H. M. Sherman, Corrigan, P. Syms, Anderson, H. Cabot, H. H. Young and O. C. Gaub.

Dr. D. S. Fairchild, Clinton, Iowa, read a paper on "Surgical Considerations in the Treatment of Chronic Suppurative Nephritis." Discussed by Drs. A. H. Ferguson and D. S. Fairchild.

Dr. Miles F. Porter, Fort Wayne, Ind., read a paper on "Kidney and Ureteral Stone." Discussed by Drs. H. H. Young, Sumter, M. H. Richardson, J. B. Deaver, Elam, M. Ballin, Mahoney, A. D. Bevan and Miles F. Porter.

Dr. T. C. Witherspoon, Butte, Mont., read a paper on "Surgery of Congenital Cystic Kidney." Discussed by Drs. D. N. Eisendrath, C. M. Nicholson, J. E. Moore and T. C. Witherspoon.

Dr. J. F. Percy, Galesburg, Ill., read a paper on "Phrenitis Prostatica." Discussed by Drs. H. N. Moyer and J. F. Percy.

THURSDAY, JUNE 9—MORNING

Dr. R. Winslow, Baltimore, read a paper on "Partial Tyroidectomy in Dementia Præcox." No discussion.

Dr. H. S. Plummer, Rochester, Minn., read a paper on "Diagnosis and Treatment of Esophageal Lesions." Discussed by Drs. W. Meyer and H. S. Plummer.

Dr. George W. Crile, Cleveland, Ohio, read a paper on "Certain Surgical Aspects of Goiter." Discussed by Drs. A. J. Ochsner, A. MacLaren, M. B. Tinker, W. R. Cubbins, C. H. Mayo and George W. Crile.

Dr. A. D. Bevan, Chicago, read a paper on "Surgical Management of Suppurative Peritonitis." Discussed by Drs. W. L. Rodman, W. H. Wathen, J. P. Runyan, Cahill, J. B. Murphy, A. J. Ochsner and A. D. Bevan.

Dr. F. McRae, Atlanta, Ga., read a paper on "Conservative Surgery of Pelvis and Lower Abdomen." Discussed by Drs. A. H. Ferguson, J. M. Baldy, Fowlkes, Schmauss, Murphy and McRae.

The Nominating Committee made the following nominations: Chairman, Dr. George W. Crile; Vice-Chairman, Dr. E. Rixford; Secretary, Dr. J. T. Bottomley; Orator, Dr. George E. Brewer; Delegate, Dr. A. F. Jonas.

The report of the Nominating Committee was accepted and the nominees were elected.

Dr. A. MacLaren, St. Paul, Minn., read a paper on "Some Further Experiences with Drainage of Pelvic Abscess Through the Rectum." Discussed by Drs. J. M. Baldy, M. H. Richardson and A. MacLaren.

THURSDAY, JUNE 9—AFTERNOON

Drs. R. Matas and C. W. Allen, New Orleans, presented a paper on "Temporary and Permanent Occlusion of the Large Arteries with Metallic Bands." Discussed by Drs. George W. Crile, D. N. Eisendrath and C. W. Allen.

Dr. W. L. Rodman, Philadelphia, read a paper on "Diagnosis of Mammary Cancer."

Dr. M. H. Richardson, Boston, read a paper on "Operative Treatment of Cancer of the Breast."

These two papers were discussed by Drs. W. Meyer, P. Syms, H. Tuholske, Miles F. Porter, W. L. Rodman and M. H. Richardson.

Dr. R. C. Coffey, Portland, Ore., read a paper on "Physiologic Implantation of Severed Ureter or Bile Duct into Intestine." Discussed by Drs. A. G. Sullivan, J. W. D. Maury and R. C. Coffey.

Dr. Le Grand Guerry, Columbia, S. C., read a paper on "A Further Consideration of Cholecystenterostomy in Certain Cases of Pancreatitis."

Dr. J. P. Runyan, Little Rock, Ark., read a paper on "Pathology of Gall-Bladder and Gall-Tract."

These two papers were discussed by Dr. Schmauss.

Dr. A. M. Pond, Dubuque, Iowa, read a paper on "Inguinal Hernia Following Appendectomy." Discussed by Dr. E. W. Andrews.

Dr. M. B. Tinker, Ithaca, N. Y., read a paper on "Teaching the Principles of Surgery: The Ideal and the Practical." Discussed by Drs. J. Stewart and L. Hirschman.

Dr. L. J. Hirschman, Detroit, read a paper on "A Simple Operation for Hemorrhoids without Hemorrhage." No discussion.

SECTION ON OPHTHALMOLOGY

TUESDAY, JUNE 7, 1910—MORNING

The Chairman, Dr. W. C. Posey, Philadelphia, called the meeting to order at 2 p. m. in Aschenbroedel Hall, 3535 Pine Street. He then delivered his address on "Examination of the Eyes in the Public Services in the United States."

Dr. W. H. Wilder, Chicago, offered a resolution concerning the Chairman's address, which on motion was adopted, and which recommended that the President of the Association be empowered to appoint a commission to cooperate with the Department of Commerce and Labor and with the Marine Hospital Corps in establishing proper visual standards and tests to govern state and federal pilots. [The text of this resolution is given in THE JOURNAL, June 18, 1910, p. 2069, and its adoption by the House of Delegates is noted on page 2076.]

Dr. R. L. Randolph, Baltimore, read a paper on "Question of Enucleation in Purulent Panophthalmitis, Together with Brief Experimental Study of the Subject." Discussed by Drs. L. Webster Fox, Philadelphia; C. J. Kipp, Newark, N. J.; L. H. Taylor, Wilkesbarre, Pa.; C. H. Williams, Boston; S. L. Ledbetter, Birmingham, Ala.; E. C. Ellett, Memphis, Tenn.; A. E. Prince, Springfield, Ill.; S. L. Ziegler, Philadelphia; Edward Jackson, Denver; Hiram Woods, Baltimore, and R. L. Randolph, Baltimore.

Dr. Percy Fridenburg, New York, read a paper entitled "A Study of Transillumination." Discussed by Dr. Edward Jackson, Denver, and R. D. Gibson, Youngstown, Ohio.

Dr. S. L. Ziegler, Philadelphia, read a paper on "The Radical Treatment of Lacrimonasal Disease by Rapid Dilatation and Allied Measures." Discussed by Drs. H. Moulton, Fort Smith, Ark.; J. L. Thompson, Indianapolis; J. A. Donovan, Butte, Mont.; C. H. Williams, Boston; Mr. J. H. Parsons, London; Drs. John E. Weeks, New York; Hiram Woods, Baltimore, and S. L. Ziegler, Philadelphia.

Dr. Arnold Knapp, New York, read a paper on "Intermittent Closing of the Retinal Arteries." Discussed by Drs. W. C. Posey, Philadelphia; L. Connor, Detroit; William Zentmayer, Philadelphia; J. L. Thompson, Indianapolis; M. Feingold, New Orleans; Wendell Reber, Philadelphia; E. C. Ellett, Memphis, Tenn.; Haughey, Battle Creek, Mich.; A. Greenwood, Boston, and Arnold Knapp, New York.

In the absence of Dr. Alvin Hubbell, Buffalo, a member of the Executive Committee, who was ill, Dr. Lewis H. Taylor, Wilkes-Barre, Pa., was appointed on that committee.

The Committee on Promotion of Family Physician Refracting presented its report, as follows:

REPORT OF COMMITTEE ON PROMOTION OF FAMILY PHYSICIAN REFRACTING

Your committee appointed under resolutions relative to Chairman Hubbell's address, 1909, begs leave to [illegible]

These resolutions affirm that every [illegible] should enable him to do two things; to manag[illegible]ses, and to determine the refractive defects of the eye. These resolutions also instruct your committee to report on methods for insuring such equipment. The problem thus given us is both broad and complicated; broad in that it affects individually every doctor and citizen; complicated in its relations to medical education, state boards of registration, medical societies, medical journals and popular sentiment. With our time limit, the committee has given it such study as was possible and submits the following:

Since economic reasons prevent a great increase of ophthalmologists, we turn to family doctors, who number about 130,000. If these could do simple refracting, and the entire number of eyes were divided among them, each would have about 1,200—a number possible for adequate refractive service. Of these, the most complicated, in population centers, would fall to the ophthalmologist; the simple and those distant [illegible]e family doctor. Thus the profession [illegible], family physicians being the soldiers, [illegible] unitedly able to refract and keep ref[illegible] human eyes.

Family physician refracting will be defined differently by individuals, but your committee defines it as "that training which enables its possessor (1) to recognize a normal ocular fundus with the ophthalmoscope, and (2) by test cards and simple lenses to determine those that give the best sight with least discomfort to simple presbyopes, myopes and hyperopes." The ability to do these two things, with celerity and positiveness, opens the door to such other things as complete his equipment.

To meet the present conditions the medical college curriculum must be adjusted and young physicians and such other physicans as have leisure encouraged to master it. For this the medical society, medical press, medical books and personal friendship must be utilized. Most important is the State Board of Registration. As the people's representative, it should refuse license to those ignorant of simple refraction. Much remains to interest some of these boards in this part of their duty, and especially in their becoming personally qualified therefor. Thus, from start to finish, the work of your committee is educational.

For study of the subject, your Committee held meetings in Atlantic City, New York, Philadelphia, Baltimore and St. Louis. Its members kept in touch with each other by frequent correspondence. Individually its members discussed the matter with fellow doctors, singly or in groups, as opportunity admitted. Rarely did they fail to win to the cause a friend, if time allowed a fair presentation of facts. Not rarely did these friends present novel ideas and helpful suggestions. Thus during a journey with a member of a state board of registration, while discussing the quantity and quality of ophthalmology a family physican ought to be able to practice, the physican said, as a substantial agreement was reached, "Fix up details as briefly as possible, send to me, and I will see that our board requires the same for license." His state now requires simple refracting for license, as he educated his board. Yet he was simply a family physician of good education, faithful in his endeavor to serve the people.

We found objections to family physician refracting mainly based in two classes of reasons—lack of broad comprehension of the subject, or selfish interest. Usually the removal of the first carried the second. All granted that a family physician ought to be qualified for simple refracting, even when conditons forbade its practice, but they doubted its possibility. Often this doubt was removed by showing that family physicians had mastered the art and were practicing it, even under unfavorable conditions. Many ophthalmologists find it hard to realize that simple refraction can be safe, or of practical value. They forget that, while a family doctor may open a felon, amputate a finger, and do other minor surgery easily, he may not operate fo[illegible] time they will learn that the family doctor c[illegible]iple refracting, leaving to the ophthalmologist [illegible], that a knowledge of personal limitations will restrain him from exceeding them; and that his little knowledge will check any tendency to practice in ignorance.

With a view of stimulating state boards of registration to make a practical study of family physican refracting and to adopt such requirements for license as would encourage medical colleges in its teaching, your Committee prepared the following circular letter and mailed a copy, within a sealed envelope, to members of each board:

Nov. 11, 1909.

"Dear Doctor ———————:"

At the late meeting of the Section on Ophthalmology, American Medical Association (eleven hundred members), the undersigned were appointed a committee to promote a working knowledge of simple refraction among family physicians.

It has secured abundant evidence that such knowledge has been acquired and is now used by many physicians, so proving that all medical men can do likewise, if they so desire.

But that the practice may become uniform, it is necessary that the state boards of registration require it for license and medical colleges teach it in course.

Recognizing its importance, the Michigan State Board of Registration, on Feb. 12, 1909, notified medical colleges that thereafter it would grant licenses to practice only to such applicants, as demonstrated, on a living subject, with simple spherical lenses and test types, their working knowledge of simple refraction.

Your Committee is confident that every state board of registration would make a like requirement, if it grasped the situation; and then all medical colleges would qualify their students therefor.

Recalling the fact that our system of medical education makes no adequate provision for training the family physician in simple refraction, and that it is impossible for experts to meet the needs of all the people in this respect, it is plain that this class of cases had no source of relief other than the optician. But if the state boards require a working knowledge of simple refraction for license, the needs of all the people will be fully met by qualified physicians, and the optician resumes his normal vocation as a spectacle merchant.

Recognizing your great influence in medical affairs, and assuming your vital interest in enlarging the field of family practice, your Committee confidently ask your active endeavor to persuade, your state board of registration to require "a working knowledge of simple refraction" from each applicant for license.

Each member of your Committee stands ready to assist you to a fuller understanding of the situation, or to cooperate with you in seeking its relief.

With thanks for your aid, and a report of your success, we remain, dear doctor,

Sincerely yours,
LEARTUS CONNOR, Detroit, Chairman.
A. R. BAKER, Cleveland, Ohio.
J. THORINGTON, Philadelphia.

Further, a copy of this letter was also sent to officers of a few medical societies, medical journals, medical colleges and other leaders in the profession. Courteous replies were promptly received, some seeking further details, that led to extended correspondence. In December, 1909, the State Board of Registration in Nebraska announced that it would require a working knowledge of simple refraction as a condition for license; in January 1910, Vermont and Utah made similar announcement; Michigan had already been operating the same requirement since Feb. 12, 1909. Replies from other states may be summarized thus:

1. In some the laws did not admit of such specific examination and more time was needed to induce legislatures to make needed changes.
2. Other boards reported that as their individual members knew nothing of refraction they were unable to examine applicants thereupon, but that they would keep the matter under consideration and hoped in the near future to qualify themselves.
3. Other boards reported such an unstable political status that they feared any agitation lest they lose what they already possessed; they promised strong efforts for creating a better public sentiment.
4. Some states desired more time for study of methods for making the proposed examinations a success.
5. No state doubted the wisdom of the suggested requirement; and those unable to make it now regretted the inability and hoped to be able to make the requirement in the near future.
6. Much correspondence was required to make clear the best methods for conducting the examinations, the proper text-books, apparatus, etc., under the varying conditions of the boards, which your Committee conducted with its best judgment.

While medical colleges were not appealed to directly, for lack of time, some, on learning of the Michigan State Board of Registration requirements, voluntarily undertook the preparation of their students therefor. The Association of American Medical Colleges invited your Committee to meet it at Baltimore last March and contribute to the untangling of its problems. Two of the members of your Committee were present, the other being prevented by illness from attending. One read a paper on the "Economic Value of Simple Refracting," which was discussed, and both discussed several points relating to simple refraction in the general medical curriculum. Privately they sought to interest members in simple refracting.

MEDICAL JOURNALS

From the editorials relative to simple refraction we can refer only to two brief extracts. The *Boston Medical and Surgical Journal*, Dec. 9, 1909, p. 865, says: "It is apparent that a need exists in the community that has not been met by the medical profession, and we are therefore in complete accord with the efforts of this committee of the Ophthalmic Section of the American Medical Association to impress on medical schools the importance of teaching simple refraction, not in special courses, but rather as part of the general medical discipline. The pressure to bring this about must, no doubt, in a measure come from state boards of registration, but we do not question that the medical schools will be quick to recognize the desirability of instituting such undergraduate instruction. While there will be some opposition by interested parties, we have no doubt that the best interests of the public will ultimately be subserved through the complete assumption of this work by the medical profession, to which it properly belongs."

The *Medical Fortnightly*, St. Louis, Mo., after quoting the Commitee's letter, restates the vexed problem of the itinerant optician and endorses the solution offered, viz., "make doctors good refractionists themselves." It thinks that the medical colleges could easily make space for simple refraction by omitting some of the things now in the course, but absent from every physician's needs in practice. Thus the addition of simple refraction would even lessen the student's burden. "The new movement is a good one and deserves hearty support."

STATE MEDICAL SOCIETIES

The able secretary of the Kentucky State Medical Society last fall secured some reprints of a paper on simple refracting and distributed them among his members. This brought on a lively discussion at its annual meeting, but in the end the practice was endorsed. It is certain that by tactful arrangement the subject could be brought before other state medical societies. Whether the result was approval or disapproval, the facts would receive consideration, and new friends made, which in turn would make other friends, and so the promotion of simple refracting advance. In fact, the movement started in the Michigan State Medical Society in 1908.

SPECIAL CONFERENCE OF OPHTHALMOLOGISTS WITH STATE SOCIETY OFFICERS

On May 3, 1910, the Detroit Ophthalmological Club invited to a Conference on the Economic Value of Family Physician Refracting, the officers of the Michigan State Medical Society; those of the Wayne County Medical Society; those of the Michigan State Board of Registration; the Deans of the Medical Department of the University of Michigan and Detroit Medical College, and two family physicians doing simple refracting. After a discussion lasting several hours, the club unanimously passed the following resolutions, offered by the professor of ophthalmology in Detroit Medical College, Dr. Don M. Campbell:

WHEREAS, Family physician refracting promotes the cooperation of family physician and ophthalmologist; provides physicians adequate to the people's refractive needs; enriches ophthalmology and ophthalmologists; general medicine and family doctor; strengthens medical organisation, and solves the optician problem.

Resolved, That the Detroit Ophthalmological Club endorses the action of the Section of Ophthalmology of the American Medical Association in promoting family physician refracting; the action of the Michigan State Medical Society, in seeking to qualify its members to meet the people's refractive needs; the action of the Kentucky State Medical Society, endorsing the Michigan idea of family physician refracting; the action of medical colleges in substituting family physician ophthalmology for special ophthalmology, and the action of the state boards of registration in Michigan, Vermont, Nebraska and Utah, in requiring for license, a working knowledge of refracting.

Resolved, That the Detroit Ophthalmological Club urge state boards of registration to require (1) for license, family physician refracting, and (2) for the right to practice ophthalmology, a comprehensive laboratory and clinical [illegible] license.

Resolved, That the Detroit [illegible] encourage family physicians to qualify for [illegible] ophthalmologists by equipping themselves for simple refracting.

It is noteworthy that most members of this conference two years previous were antagonistic to the movement. When conditions are favorable your Committee commends the holding of similar conferences. As ophthalmologists become interested they will take the matter up with their county medical *societies*. It is suggested that if they can secure the attendance of one or more family doctors who practice family physician refracting and have them give their actual experience, the outcome will be more.

It will surprise not a few ophthalmologists to learn of the satisfactory, useful refracting done in far away locations.

VIEWS FROM LEADERS IN THE PROFESSION

Space admits quotations from only three. Dr. William C. Gorgas, President of American Medical Association says: "Your circular letter of November 13 is acknowledged. I think the plan you outline is excellent."

Dr. Charles A. L. Reed, Ex-President of the American Medical Association says: "The plan to require a working knowledge of simple refraction by all candidates for medical licensure is capital and distinctively the logical remedy for the "optometric evil" that seems to threaten the eyes of all the people."

Dr. W. W. Grant, of Denver: "Your communication in regard to simple refraction by the family physician is received. It will give me pleasure to advance the action suggested with our state board. I believe the action of your state board of registration to be wise, timely and greatly to its credit."

Your Committee commends wise efforts to secure the attention of leaders in the profession by suitable circular or private letters, especially in keeping them posted as to the places and lines where greatest progress is being made, and suggesting their active effort in some specific direction.

Your Committee recommends:

1. The continued promotion of family physician refracting.
2. The authorization of your Committee to select in each state an auxiliary committee of three physicians, especially adapted to deal with State problems in simple refracting promotion.

RECENT PAPERS RELATING TO FAMILY PHYSICIAN REFRACTING

1. Baker, A. R.: "Teaching of Ophthalmology," *Cincinnati Lancet-Clinic*, May 14, 1910.
2. Connor, Leartus: "The Economic Value of Family Physician Refracting," *Bull. Am. Acad. Med.*
3. Connor, Leartus: "Conference of Ophthalmologists with Organization Leaders," THE JOURNAL A. M. A., May 28, 1910, p. 1820.
4. Thorington, James O.: "Refracting Opticians," *Pennsylvania Med. Jour.*, February, 1910.
5. Connor, Leartus: "General Practitioner and Simple Refracting," THE JOURNAL A. M. A., April 10, 1909, p. 1195.
6. Connor, Leartus: "Ophthalmology for General Practitioners," THE JOURNAL A. M. A., Nov. 28, 1908, 1833.
7. Connor, Leartus: "Layman Occupancy of Large Patches in the Field of Medical Practice," *Jour. Michigan State Med. Soc.*, May, 1909.
8. Connor, Leartus: "The Needs of the Entire Field of Medical Practice, the Rational Standard of a System of Medical Education," *Bull. Am. Acad. Med.*, x, No. 5.
9. Connor, Leartus: "Simple Refracting for Family Physicians, Its Promotion During 1908-9," THE JOURNAL A. M. A., Oct. 9, 1909, p. 1226.

LEARTUS CONNOR, Chairman.
ALBERT R. BAKER.
J. THORINGTON.

The Committee for Legislation on Optometry then presented its report, as follows:

REPORT OF COMMITTEE FOR LEGISLATION ON OPTOMETRY

The Committee for Legislation on Optometry report to the Section on Ophthalmology that prior to its appointment at Atlantic City in 1909 *twenty-four states had passed laws* recognizing the optical trade as a quasi-medical profession; that since the Committee took office no states have passed such law. Late in 1909 Massachusetts, Connecticut, Pennsylvania, Illinois, Missouri and Texas rejected "optometry" bills, while in the current year Massachusetts, New Jersey, Maryland and Ohio have followed up the good work by similar action.

The partial medical work of the optician has been tolerated; but, not content with that, he seeks to have his work legalized. In many states the step from toleration to legalization has been easy, as the political activity of the optician has encountered but little resistance from the masterly inactivity of most oculists and general medical practitioners.

Legalization is but a back-door entrance into medical practice, as shown by the curriculum of their schools and the questions asked by their optometry examining boards. If you wish medicine for medical men and ophthalmology for oculists you must at least be active citizens and show actively and aggressively your wishes and your objections in this matter.

We, cognizant of what has happened in the past and what is threatened in the future, say that so-called "optometry" should not be recognized in any way, that we should cry "No recognition and no compromise!" on all occasions.

But in this stand we must ask the active support of our profession in checking this fad, and if such support be accorded we are certain that these advertising tradesmen will make little or no progress in the future.

The American Medical Association will probably publish in the near future a history of the claims, schools and legislative efforts of the opticians, to be used as a text-book or brief by medical societies in the states where this question is still to be fought.

We freely give our efforts, but we ask aid rather than opposition from our own ranks.

Resolutions which will now be read embody our ideas in regard to this entire question.

JOHN C. BOSSIDY.
JAMES THORINGTON.

Dr. H. Woods, Baltimore, offered the following resolution concerning the report of the Committee on Promotion of Family Physician Refracting and moved its adoption:

[illegible] committee appointed by chairman of the [illegible] 1909, on teaching in medical colleges of [illegible] eye and refractive errors:

WHEREAS, The refracting of human eyes is an important part of medical practice; and

WHEREAS, The Section on Ophthalmology of the American Medical Association recommends that "every general practitioner should have the training in ophthalmology which will enable him to manage infectious diseases of the eye and its refractive defects."

Resolved, That the House of Delegates of the American Medical Association (1) requests its Council on Medical Education to arrange a curriculum able to equip medical students with such training, and recommends medical colleges to adopt the same: (2) approves of the state registration boards now requiring it for license; and (3) advises like action by other state registration boards at an early date.

The motion was seconded.

Dr. J. Thorington, Philadelphia, a member of the Committee on Optometry Legislation, offered a resolution concerning the report of the Committee on Optometry Legislation, the text of which is given in THE JOURNAL, June 18, 1910, p. 2069, and which urges that legal recognition of the optometrist as a diagnostician of the diseases of the eye is an infringement on medical practice laws and should not be sanctioned by any state or institution; that referring patients to opticians should be deprecated; that the House of Delegates be requested to publish a history of so-called optometry and optometry colleges and to send copies to officials of state medical societies and to other medical men who are; and that a committee of two members of the Section on Ophthalmology be appointed to furnish the necessary data.

The resolutions of the two committees as given above were passed and sent to the House of Delegates for action. [The approval of that body is noted in The Journal, June 18, p. 2076.]

Wednesday, June 8—Morning

Dr. Mark D. Stevenson, Akron, O., exhibited an instrument for elevating and holding the upper lid in the treatment of ophthalmia neonatorum, or other trouble, to facilitate the application of medicaments to the upper cul-de-sac. Dr. Stevenson also showed a Goodrich No. 7 shut-off, to be used on an irrigator.

Dr. A. Greenwood, Boston, presented an appliance for shutting out surrounding light in examining the interior of the eye with the ophthalmoscope.

Dr. C. H. Williams, Boston, exhibited some correctly colored worsteds for performing the Holmgren color test of the eyes, and explained his method of keeping a record of the examinations of patients for color-blindness.

Dr. G. C. Savage, Nashville, exhibited his muscle indicator and explained how it might be used in the light tests.

Dr. Lucien Howe, Buffalo, Chairman of the Committee on Collective Investigation Concerning the Ocular Muscles, read the report of that committee.

On motion of Dr. J. E. Weeks, New York, the report was accepted and the committee continued. The report was discussed by Dr. Weeks, Dr. Savage and Dr. Howe.

The report of the Committee on Tuberculosis was read by the Chairman, Dr. W. H. Wilder, Chicago. On motion of Dr. Mark D. Stevenson, Akron, O., the report was adopted and the committee ordered continued. The report was discussed by Dr. John Green, St. Louis.

Dr. Edward Jackson, Denver, read a paper on "Tests of Visual Subjective Correction of Ametropia." Discussed by Dr. C. H. Williams, Boston; Dr. F. Park Lewis, Buffalo; Dr. W. H. Leudde, St. Louis, and Dr. E. Jackson, Denver.

On motion of Dr. A. E. Bulson, Jr., Fort Wayne, Ind., the delegate from the Section was directed to present the name of Mr. J. Herbert Parsons, London, the guest of the Section, to the House of Delegates for election as an honorary member of the Association.

Drs. Mark D. Stevenson, Akron, and E. M. Weaver, Akron, O., presented a paper on "Prescribing of Lenses For Close Work." Discussed by Drs. A. G. Bennett, Buffalo; A. E. Bulson, Jr., Fort Wayne, Ind.; A. Greenwood, Boston; S. L. Ledbetter, Birmingham, Ala.; G. C. Savage, Nashville; Joseph S. Lichtenberg, Kansas City, and Mark D. Stevenson, Akron, O.

Dr. F. Park Lewis, Buffalo, N. Y., read a paper on "Prevention of Blindness." Discussed by Drs. A. E. Bulson, Jr., Fort Wayne, Ind.; Lucien Howe, Buffalo, N. Y.; A. Greenwood, Boston; John Green, Jr., St. Louis; J. A. Donovan, Butte, Mont.; G. C. Savage, Nashville, Tenn.; Miss C. C. Van Blarcom, New York; Mr. Elliott, of the Russell Sage Foundation, New York, and Dr. Mark D. Stevenson, Akron, O.

Dr. F. Park Lewis, Buffalo, N. Y., offered the following resolution covering certain recommendations in Dr. Lewis' paper:

Whereas, The American Medical Association has at present a Committee on Ophthalmia Neonatorum, the purpose of which is the prevention of blindness from this disease, and

Whereas, Trachoma, industrial accidents, intermarriage of the blind, and wood alcohol amblyopia are also preventable causes of blindness; therefore, be it

Resolved, That the House of Delegates be requested to appoint a "Committee on the Prevention of Blindness," the membership of which shall consist of the Chairman of the Committee on Ophthalmia Neonatorum and such other members for the investigation of the above causes of blindness as the president may appoint. This Committee shall invite the cooperation of the American Ophthalmological Society and similar organizations.

[The approval of this resolution, with modifications, is noted in The Journal, June 18, page 2076.]

Dr. W. Zentmayer read a paper on "Present Status of the Etiology of Squint." Discussed by Drs. C. D. Wescott, Chicago; G. C. Savage, Nashville; L. Emerson, Orange, N. J., and Dr. W. Zentmayer.

Wednesday, June 8—Afternoon

Mr. J. Herbert Parsons, London, the guest of the Section, delivered his address on "The Effect of Bright Light on the Eyes." No discussion.

Dr. A. E. Davis, New York, read a paper on "Post-Operative Treatment of Strabismus." Discussed by Drs. Nelson M. Black, Milwaukee, Wis.; W. Reber, Philadelphia; G. C. Savage, Nashville, Tenn.; Lucien Howe, Buffalo, N. Y.; W. Zentmayer, Philadelphia, and A. E. Davis, New York.

Dr. V. H. Hulen, Houston, Tex., read a paper on "Advancement Operation in Squint." Discussed by H. H. Briggs, Asheville, N. C.; G. C. Savage, Nashville, Tenn.; F. C. Todd, Minneapolis; Mark D. Stevenson, Akron, O.; John Green, St. Louis, E. C. Ellett, Memphis, Tenn.; V. H. Hulen, Houston, Tex.

Dr. Casey Wood, Chicago, read a paper on "Surgical Treatment of Separation of the Retina." Discussed by Drs. L. Webster Fox, Philadelphia; Oscar Dodd, Chicago; H. Gifford, Omaha, Neb.; S. L. Ziegler, Philadelphia; Hiram Woods, Baltimore; A. Greenwood, Boston, and Casey Wood, Chicago.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind., read a paper on "The Noguchi Serum Reaction for Syphilis as an Aid to Diagnosis in Eye Lesions." Discussed by Drs. E. V. L. Brown, Chicago, and A. E. Bulson, Jr., Fort Wayne, Ind.

Thursday, June 9—Morning

Dr. H. Hill, Benton Harbor, Mich., exhibited an addition to the trial frame for measuring the near reading focus.

Dr. W. Reber, Philadelphia, presented a circular, concave glass shield on a handle made to fit over the cornea to prevent loss of vitreous in cataract operations. He also presented a pair of magnifying lenses in a spectacle frame with hooks to be attached over the glasses of the operator in doing needling or other operations on the eye. Dr. Allen Greenwood, of Boston, stated that he had devised and had been using the same appliance for twelve years.

Dr. Nelson Black, Milwaukee, presented an appliance to be used on the trial frame when using the red glass to aid in determining diplopia, so that the patient cannot look above, below or to the right or left, but must look through the red glass. It is simply an enlargement of the red glass that fits up against the patient's nose closely.

Dr. C. H. Williams, Boston, presented an apparatus and method for making enlarged prints of microscopic specimens, which gave a sharpness of definition which could not be obtained in the ordinary way.

Dr. H. Gradle, Chicago, showed his modification of the Schietz tonometer.

Dr. H. Gifford, Omaha, Neb., read a paper on "Danger of Sympathetic Ophthalmia From the Use of the Cautery in Treating Iris-Prolapse; with Discussion of Other Methods of Treatment. Discussed by Drs. R. H. T. Mann, Texarkana; J. A. Donovan, Butte, Mont.; Edward Jackson, Denver, and Gifford, Omaha, Neb.

Dr. W. R. Parker, Detroit, read a paper on "Ophthalmia Nodosa, or Caterpillar-Hair Ophthalmia, with Report of a Case." No discussion.

Dr. E. C. Ellett, Memphis, Tenn., read a paper on "Spontaneous Rupture of the Eyeball—A Phenomenon of Glaucoma." Discussed by Drs. J. M. Ray, Louisville, Ky.; S. L. Ledbetter, Birmingham, Ala.; R. H. T. Mann, Texarkana, and E. C. Ellett, Memphis, Tenn.

Dr. Hiram Woods, Baltimore, read a paper on "Auto-intoxication and Allied Intestinal Troubles as a Possible Cause of Certain Vascular and Functional Disturbances." Discussed by Drs. J. F. Shoemaker, St. Louis; Judson Daland, Philadelphia; J. L. Thompson, Indianapolis; L. Connor, Detroit; A. G. Bennett, Buffalo, N. Y.; R. D. Gibson, Youngstown, O.; S. L. Ziegler, Philadelphia, and H. Woods, Baltimore.

Dr. J. E. Weeks, New York, read a paper on "Status of Serum and Vaccine Therapy in Ophthalmology." Discussed by Drs. M. Wiener, St. Louis; H. Gradle, Chicago; H. Gifford, Omaha, Neb.; A. G. Bennett, Buffalo, N. Y.; E. V. L. Brown, Chicago, and J. E. Weeks, New York.

Dr. Wendell Reber, Philadelphia, read a paper on "The Ocular Palsies Associated with the Introduction of Various Solutions into the Spinal Cord for the Induction of Surgical Anesthesia." Discussed by Drs. John Green, Jr., St. Louis; W. W. Graves, St. Louis; Prof. Alfred Saenger, Hamburg, Germany; James Bordley, Baltimore; G. C. Savage, Nashville, Tenn.; and W. Reber, Philadelphia.

Prof. Alfred Saenger, of Hamburg, Germany, the guest of the Section on Nervous and Mental Diseases, was invited to address the Section on Ophthalmology and spoke on the Wilbrandt method of differentiating cortical from basal hemianopsia.

Thursday, June 9—Afternoon

The Executive Committee submitted its report as follows:

Your Committee submit the following recommendations as their report:

First, we recommend that the officers shall so construct the program for next year that the reading and discussion of papers shall continue until noon of Friday, the fourth day, and that clinical demonstrations, if any, shall be given on Friday afternoon.

As to officers of the Section for another year, we recommend A. E. Bulson, Jr., Fort Wayne, for Chairman, as a fitting recognition of his long and faithful services as Secretary, in which office he has grown bald if not gray.

We recommend the "Chesterfield" of Southern Ophthalmology, E. C. Ellett, of Memphis, for Vice-Chairman.

We recommend the vigorous, promising young ophthalmologist, Edgar S. Thompson, of New York City, for Secretary.

Finally, we recommend that John C. Bossidy, of Boston, be made our representative in the House of Delegates.

G. C. SAVAGE,
W. H. WILDER,
LEWIS H. TAYLOR.

Dr. L. Webster Fox, Philadelphia, offered the following resolution, which, on motion, was adopted and ordered transmitted to Governor Crothers of Maryland and Governor Harmon of Ohio:

Resolved, That the thanks of the Section on Ophthalmology of the American Medical Association be extended to Governor Crothers of Maryland, and Governor Harmon of Ohio, for their action in vetoing bills legalizing the practice of so-called optometry.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind., moved that the Chairman appoint a committee of three to represent this Section before the Board of Trustees to discuss the action which prevented the Section on Ophthalmology from having an exhibit and demonstration at the meeting-place of the Section, and to make some satisfactory arrangement with the Board of Trustees for such scientific exhibit and demonstration in the future. Carried. The Chairman appointed on that committee Drs. Albert E. Bulson, Jr., Fort Wayne, Ind.; Casey Wood, Chicago, and Edward Jackson, Denver.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind., brought up the question of the establishment by the Section of a fund to be known as the Herman Knapp Testimonal Fund, said fund to be used for the following purposes, or for such purposes as might be agreed on by the Section or the committee provided for the purpose of taking charge of the fund:

1. A Knapp Medal to uninvited contributors for original work in ophthalmology or a summary of the literature, or some contribution of such a highly meritorious character in the field of ophthalmology as would warrant the granting of a medal.
2. A prize or medal to be given to those who are invited to contribute on some special topic or work.
3. A portion of the fund to be used to meet the expenses of the scientific exhibit and various practical demonstrations.
4. A portion of the fund to make provision for incidental expenses of the Section.
5. A portion to make provision for the expenses of committees carrying on scientific work, as, for instance, the Committee on Tuberculous Diseases of the Eye, etc.
6. A portion to make provision for the contingent expenses of the Section not met by the Association, as expenses for postage, etc., now paid by the Secretary.
7. A portion to make provision for the local expenses of invited guests or guests of honor of the Section.
8. A committee of five to be appointed to carry out the above purposes of securing a fund in accordance with a circular already sent to the members, on which the sum of about $400 had been collected, and to have charge of and administer the fund, one member of said committee to be appointed for one year, another for two years and another for three years, thus changing the membership of the board each year.

Dr. G. C. Savage, Nashville, Tenn., made a motion, which was seconded and carried, that the Section on Ophthalmology approve of the plans and purposes of the Herman Knapp Testimonial Fund as outlined by Dr. Bulson.

Dr. John E. Weeks, New York, moved that the committee consist of the Chairman and Secretary of this Section and the Executive Committee of the Section. *Seconded and carried.*

REPORT OF THE COMMITTEE ON THE SMITH OPERATION FOR CATARACT

The Committee on the Smith Operation for Cataract submitted a report as follows:

The committee appointed by this Section at Atlantic City last year, to report on the merits of the Smith operation as applied to American patients, begs leave to report progress and asks for more time. The *time since its* circular was issued has been too short to gather enough cases to do justice to the operation. If this committee is continued it will insist that all operations reported to it shall be mad [illegible] neral plan laid down by Colonel Smith, and [illegible] s recorded in the *Ophthalmic Record*, Februa [illegible] a record of 25,000 operations has given him the right to say just how a Smith operation shall be performed.

D. W. GREEN,
ARNOLD KNAPP,
EDWARD JACKSON,
CASEY WOOD,
WALTER R. PARKER, Secretary.

On motion of Dr. L. Webster Fox the report was received and the committee continued.

Dr. G. C. Savage, Nashville, Tenn., read a paper on "Cataract-in-Capsule Extraction by a New Means and a New Method."

Dr. J. L. Thompson, Indianapolis, read a paper on "My Experience in the Operation for Cataract."

These two papers were discussed by Drs. T. H. Wood, Nashville, Tenn.; A. E. Bulson, Jr., Fort Wayne, Ind.; D. W. Green, Dayton, Ohio; L. Webster Fox, Philadelphia; J. L. Thompson, Indianapolis, and G. C. Savage, Nashville, Tenn.

Dr. Allen Greenwood, Boston, read a paper on "Filtering Cicatrix for Chronic Glaucoma, with Report of Cases Operated on by the Method of LaGrange." Discussed by Drs. J. E. Weeks, New York; H. Gifford, Omaha, Neb., and A. Greenwood, Boston.

Dr. G. C. Savage, Nashville, explained that Dr. F. P. Calhoun, Atlanta, on account of the illness of his father, a member of the Association, could not be present to read his paper on "Plastic Surgery of the Eyelids, Using the Wolfe Graft," and moved that the paper be postponed and put on the program for next year. Carried.

Dr. S. L. Ziegler, Philadelphia, moved that a message of condolence be sent from the Section to Dr. Calhoun on the illness of his father. The Secretary was so instructed.

SECTION ON LARYNGOLOGY AND OTOLOGY

TUESDAY, JUNE 7—AFTERNOON

The Chairman, Dr. Chevalier Jackson, Pittsburg, called the meeting to order at 2:30 p. m., in Sodality Hall..

Dr. Jackson delivered the Chairman's Address, entitled, "Esophageal Stricture Following the Swallowing of Caustic Alkalies."

Dr. E. Fletcher Ingals, Chicago, made a motion, which was passed, that the subject be referred to the Committee on Pharmacy with the request that they do what may be necessary to secure the proper labeling of these dangerous substances.

Dr. Holger Mygind, Copenhagen, Denmark, the foreign guest of the Section, delivered an address, "In Memoriam: Wilhelm Meyer."

Dr. Dunbar Roy, Atlanta, Ga., read a paper entitled "Clinical Observations on Nasal Diphtheria." Discussed by Drs. W. E. Casselberry, Chicago; B. R. Shurly, Detroit; Max Goldstein, St. Louis; J. A. Stucky, Lexington, Ky.; Henry Horn, San Francisco; G. L. Cott, Buffalo; Fletcher Ingals, Chicago; Otto Glogau, New York; C. M. Miller, Richmond; and Dr. Dunbar Roy, Atlanta, Ga.

Dr. Ross Hall Skillern, Philadelphia, read a paper on "The Comparative Pathology of Hyperplastic and Suppurative Ethmoiditis," with lantern-slide demonstration. Discussed by Drs. W. L. Ballinger, Chicago; W. E. Casselberry, Chicago; G. P. Marquis, Chicago; O. T. Freer, Chicago; W. L. Ballinger, Chicago; and R. H. Skillern, Philadelphia.

WEDNESDAY, JUNE 8—MORNING

Dr. Henry Horn, San Francisco, read a paper on "The Bronchoscopic Treatment of Bronchial Asthma." Discussed by Drs. E. Fletcher Ingals, Chicago; Chevalier Jackson, Pittsburg; W. E. Casselberry, Chicago; W. S. Anderson, Detroit; and Henry Horn, San Francisco.

Dr. Justus Matthews, Rochester, Minn., read a paper on "Observations on the Vocal Cords in One Thousand Cases of Goiter." Discussed by Drs. W. E. Casselberry, Chicago; G. F. Cott, Buffalo; Henry Horn, San Francisco; G. P. Marquis, Chicago; and Justus Matthews, Rochester, Minn.

The following three papers were read and discussed as a Symposium on Faucial Tonsils:

Dr. Robert Levy, Denver, "The Tuberculous Tonsil."

Dr. Joseph C. Beck, Chicago, "Conditions Demanding Enucleation of Faucial Tonsils."

Dr. Burt R. Shurly, Detroit, "The Difficulties Associated with the Operation for Enucleation of the Faucial Tonsils, and Contraindications for This Procedure."

These three papers were discussed by Drs. A. H. Andrews, Chicago; W. E. Sauer, St. Louis; W. F. Welty, San Francisco; J. E. Logan, Kansas City; O. T. Freer, Chicago; F. E. Auten, Belleville, Ill.; Max Goldstein, St. Louis; B. D. Sheedy, New York; Henry Horn, San Francisco; and J. C. Beck, Chicago.

WEDNESDAY, JUNE 8—AFTERNOON

Dr. Burt R. Shurly offered a resolution that a committee be appointed by the chair to draw up resolutions in memoriam of Drs. Stubbs and King, which was adopted, and the chair appointed Drs. Shurly, Pierce and Goldstein as such committee.

The following three papers were read and discussed as a Symposium on Otitic Meningitis:

Dr. E. B. Dench, New York, "Symptomatology and Diagnosis of Meningitis of Otitic Origin."

Dr. S. MacCuen Smith, Philadelphia, "Indications for Surgical Interference for the Relief of Otitic Meningitis."

Prof. Holger Mygind, Copenhagen, Denmark, "The Surgical Treatment of Otitic Meningitis."

These three papers were discussed by Drs. Norval H. Pierce, Chicago; J. A. Stucky, Lexington, Ky.; W. F. Welty, San Francisco; C. M. Brown, Buffalo; Scholtz, St. Louis; Otto Glogau, New York; E. P. Dench, New York; S. M. Smith, Philadelphia; and Holger Mygind, Copenhagen, Denmark.

On motion of Dr. MacCuen Smith, the delegate from the Section was instructed to recommend to the House of Delegates that Prof. Holger Mygind, Copenhagen, Denmark, be made an honorary member of the Association.

Dr. F. P. Emerson, Boston, read a paper on "The Results of the Operation of Submucous Resection of the Septum in Private Practice."

Dr. Clyde E. Purcell, Paducah, Ky., read a paper on "Submucous Resection of the Nasal Septum."

These two papers were discussed by Drs. J. O. Roe, Rochester, N. Y.; O. T. Freer, Chicago; Scholtz, St. Louis; B. D. Sheedy, New York; W. L. Ballinger, Chicago; O. Tydings, Chicago; G. Sluder, St. Louis; James Steffens, Chicago; L. P. Emerson, Boston; and C. E. Purcell, Paducah, Ky.

Thursday, June 9—Morning

The Vice-Chairman, Dr. George F. Cott, Buffalo, presiding, the election of officers took place.

The report of the Executive Committee, Dr. S. MacCuen Smith, Philadelphia, Chairman, recommended the following as officers for the ensuing year: Chairman, Dr. Dunbar Roy, Atlanta, Ga.; Vice-Chairman, Dr. W. E. Sauer, St. Louis; Secretary, Dr. George E. Shambaugh, Chicago; Delegate, H. W. Loeb, St. Louis.

On motion, duly seconded, the report of the Executive Committee was accepted and the Chairman instructed to cast the ballot for the nominees.

Dr. S. MacCuen Smith, on behalf of the Executive Committee, made a motion, which was seconded and adopted, that in the future the senior member of that Committee be recommended to the Section for the next member of the House of Delegates.

An Exhibition of Patients, Instruments and Specimens was then held.

Dr. Greenfield Sluder, St. Louis, demonstrated a method of removing tonsils, in their capsule, with a modified MacKenzie tonsillotome, and exhibited a number of tonsils so removed, and patients who had been operated on by this method, showing the after-results.

Dr. C. A. Leavy, St. Louis, exhibited a case of laryngeal stenosis.

Dr. Max Goldstein, St. Louis, showed a case of angioma cavernosa of the uvula, and described the method of its removal. He also showed an interesting case of paralysis of the vocal cords.

Dr. W. E. Sauer, St. Louis, exhibited a case of osteoma of the nasal process of the maxillary bone; and, a case of thrombosis of the lateral sinus, which had occurred without involvement of the middle ear.

Dr. Mark D. Stevenson, Akron, Ohio, exhibited a new ear-drain made of cotton covered with gauze, of round form, which could be cut into convenient lengths, and used by the patient, who could change it at frequent intervals.

Dr. H. W. Loeb, St. Louis, showed a case in which laryngectomy had been done six years previously for epithelioma of the larynx; the patient, a working man, bricklayer, had been able to continue his work ever since very satisfactorily. At home he could express himself so as to be understood by his family.

Dr. Max Goldstein, St. Louis, showed a patient, a young girl of 17, who had been totally deaf for five years and who in two months of systematic teaching had acquired a knowledge of lip reading by which she could communicate with others. Discussed by Prof. Holger Mygind, Copenhagen, Denmark.

Dr. Otto Glogau, New York, exhibited a submucous septum saw, for removing the deviated bony portion of the deflected septum.

Dr. Henry Horn, San Francisco, exhibited an instrument or apparatus for determining the presence of pus in the accessory cavities by means of negative pressure.

Dr. J. D. Heitger, Kalamazoo, Mich., exhibited a device for warming the laryngeal mirror by means of an attachment to the ordinary electric socket.

J. W. Radu, Tonawanda, N. Y., showed an improvement on the diagnostic lamps to be used with battery or street currents, which produced a perfectly white light instead of a yellow one, and gave no heat. This closed the exhibition.

Dr. Sydney Lange, Cincinnati, read a paper on "The Pathology of Mastoiditis as Revealed by the X-ray. Discussed by Drs. Henry Horn, San Francisco; C. F. Welty, San Francisco; Frank E. Auten, Belleville, Ill.; and S. Lange, Cincinnati.

Dr. Frank C. Todd, Minneapolis, read a paper on "Neuralgias and Functional Disturbances Occurring in the Head and Neck Arising from Infections in and About the Tonsils." Discussed by Drs. Lafayette Page, Indianapolis; Frank E. Auten, Belleville, Ill.; MacLaren, Oklahoma; C. F. Welty, San Francisco; H. B. Lemere, Omaha, Neb.; George F. Cott, Buffalo; and Frank C. Todd, Minneapolis.

Dr. George W. Boot, Evanston, Ill., read a paper on "The Development of the Human Temporal Bone." Discussed by Dr. George E. Shambaugh, Chicago.

Dr. Will Walter, Chicago, read a paper on "A Study of the Bacterial Flora of the Nasal Mucosa." Discussed by Drs. E. R. Lewis, Dubuque, Iowa; W. S. Anderson, Detroit; and W. Walter, Chicago.

Dr. Henry Horn, San Francisco, demonstrated preparations showing (a) "Cholesteatoma of Middle Ear with Defect in the Horizontal Semicircular Canal and Infection of the Labyrinth"; (b) "Cholesteatoma of Middle Ear with Defect in Horizontal Canal Without Infection of the Labyrinth." Discussed by Dr. George E. Shambaugh, Chicago.

Thursday, June 9—Afternoon

The Vice-Chairman, Dr. George Scott, Buffalo, N. Y., presided.

The committee appointed to draw up resolutions in memoriam of Drs. Stubbs and King asked for further time in which to gather biographic data, and asked to be empowered to submit one copy of report to the Secretary to be spread on the minutes, and a copy to be sent to the respective families. On motion of Dr. J. J. Kyle, the request of the committee was granted.

The following papers were read and discussed as a Symposium on Labyrinthine Suppuration:

The paper of Dr. Jaques Holinger, Chicago, on "The Pathology and Prognosis of Internal Ear Complications Resulting from Inflammatory Middle Ear Diseases," was read by Dr. B. R. Shurly, Detroit, Dr. Holinger being absent because of illness.

Dr. L. K. Guggenheim, St. Louis, gave a lantern-slide demonstration of specimens, showing the pathology of internal ear disease.

Dr. J. R. Fletcher, Chicago, read a paper on "The Symptoms and Diagnosis of Infections of the Labyrinth Resulting from Chronic Suppurative Otitis Media."

Dr. George E. Davis, New York, read a paper on "The Present Status of Vertigo Considered from a Diagnostic Standpoint."

The three papers, with the lantern-slide demonstration, were discussed by Drs. A. B. Duel, New York; Prof. Holger Mygind, Copenhagen, Denmark; George F. Cott, Buffalo; C. F. Welty, San Francisco; George E. Shambaugh, Chicago; Robert Barclay, St. Louis; C. M. Brown, Buffalo; L. K. Guggenheim, St. Louis; Henry Horn, San Francisco; Otto Glogau, New York; J. R. Fletcher, Chicago; and G. E. Davis, New York.

SECTION ON NERVOUS AND MENTAL DISEASES

Tuesday, June 7—Morning

The meeting was called to order at 2 p. m., in the St. Louis University Library, by the Chairman, Dr. Theodore Diller, Pittsburg, who then read his address.

A committee, consisting of Dr. Collins and Dr. Langdon, was appointed to prepare resolutions regarding the death of Dr. Wharton Sinkler.

Dr. Alfred Saenger, of Hamburg, Germany, was, on motion, recommended for honorary membership. [The House of Delegates approved.]

A resolution deprecating the custom of printing details of suicides in the secular press on account of the harmful, suggestive effect on certain individuals, and requesting the Legislative Committee to be instructed to secure, if possible, the enactment of a national law forbidding the use of the mails to newspapers publishing such details, and making it a misdemeanor to publish them, was referred to the Executive Committee.

Dr. Joseph Collins, New York, read a paper on "The Urgent Need of Hospitals for the Study and Treatment of Nervous Diseases."

Dr. L. Vernon Briggs, Boston, read a paper on "Prevention of Insanity by the Treatment of Incipient Cases in General Hospitals."

Dr. Irwin H. Neff, Foxboro, Mass., read a paper on "The State Care of the Inebriate."

These three papers were discussed by Drs. Alfred Saenger, Hamburg, Germany; Charles L. Dana, New York; T. D. Crothers, Hartford, Conn.; F. P. Norbury, Kankakee, Ill.; A. E. Sterne, Indianapolis; Frank R. Fry, St. Louis; Philip Zenner, Cincinnati; Hugh T. Patrick, Chicago; Theodore Diller, Pittsburg; Haldor Sneve, St. Paul, Minn.; Herman H. Hoppe, Cincinnati; Joseph Collins, New York; L. Vernon Briggs, New York; and Irwin H. Neff, Foxboro, Mass.

The Chairman appointed as an Executive Committee, and also as a Committee on Nomination of Officers: Drs. Charles L. Dana, New York; H. T. Patrick, Chicago; and F. W. Langdon, Cincinnati.

Dr. Herbert J. Hall, Marblehead, Mass., read a paper on "Manual Work in the Treatment of the Functional Nervous Diseases."

Dr. Haldor Sneve, St. Paul, Minn., read a paper on "The Treatment of Nervous Diseases by Gymnastic and Massage."

These two papers were discussed by Drs. C. R. Woodson, St. Joseph, Mo.; John Punton, Kansas City, Mo.; Frank R. Fry, St. Louis; Philip Zenner, Cincinnati; C. P. Emerson, Clifton Springs, N. Y.; L. H. Mettler, Chicago; Theodore Diller, Pittsburg, Pa.; Herbert J. Hall, Marblehead, Mass.; and Haldor Sneve, St. Paul, Minn.

Wednesday, June 8—Morning

Dr. H. E. Robertson, Minneapolis, read a paper on "Pathology of Anterior Poliomyelitis."

Dr. David Silver, Pittsburg, Pa., read a paper on "The Surgical Treatment of Anterior Poliomyelitis."

These two papers were discussed by Drs. Archibald Church, Chicago; L. H. Mettler, Chicago; P. Bassoe, Chicago; A. L. Skoog, Kansas City; Arthur S. Hamilton, Minneapolis; Nathaniel Allison, St. Louis; Frank R. Fry, St. Louis; C. R. Woodson, St. Joseph, Mo.; C. H. Hughes, St. Louis; H. E. Robertson, Minneapolis; and David Silver, Pittsburg.

Wednesday, June 8—Afternoon

Dr. Herman H. Hoppe, Cincinnati, read a paper on "The Topographical Diagnosis of Subtentorial Tumors."

Dr. Frank Warren Langdon and Simon P. Kramer, Cincinnati, presented a paper on "Brain Tumor of the Psychomotor Area."

Dr. Julius Grinker, Chicago, read a paper on "Tumor of the Cerebello-Pontile Angle."

These three papers were discussed by Drs. C. H. Hughes, St. Louis; George W. Hall, Chicago; A. E. Sterne, Indianapolis; Charles L. Dana, New York; Theodore Diller, Pittsburg, Pa.; D'Orsay Hecht, Chicago; H. H. Hoppe, Cincinnati; and Julius Grinker, Chicago.

Drs. Edward E. Mayer and Otto C. Gaub, Pittsburg, Pa., presented a paper on "Intradural Tumor of Lower Cervical Cord with Operation."

Discussed by Drs. Theodore Diller, Pittsburg, Pa.; Julius Grinker, Chicago; Charles L. Dana, New York; and Edward E. Mayer, Pittsburg, Pa.

Dr. Archibald Church, Chicago, read a paper on "Nervous and Mental Disturbance at the Male Climacteric." No discussion.

Dr. Charles L. Dana, New York, read a paper on "Study and Interpretation of Pains and Dysthesias." Discussed by Drs. Frank R. Fry, St. Louis; John Punton, Kansas City, Mo.; Sanger Brown, Chicago; L. H. Mettler, Chicago; Julius Grinker, Chicago; C. A. Wingerter, Wheeling, W. Va.; William W. Graves, St. Louis; Theodore Diller, Pittsburg; Charles L. Dana, New York.

A resolution was adopted by rising vote in memory of the late Wharton Sinkler.

Dr. E. M. Hummel, New Orleans, read a paper on "Syphilitic Disease of Arteries of the Central Nervous System, with Detailed Report of a Case." Discussed by Drs. William W. Graves, St. Louis; George A. Moleen, Denver; Sanger Brown, Chicago; Theodore Diller, Pittsburg, and E. M. Hummel, New York.

Dr. A. L. Skoog, Kansas City, Mo., read a paper on "Amyotonia Congenita." Discussed by Dr. Theodore Diller, Pittsburg, Pa.

Dr. E. Bosworth McCready, Pittsburg, Pa., read a paper on "The Relation of Stuttering to Amusia." No discussion.

Thursday, June 9—Morning

The following officers of the Section for 1911 were elected: Chairman, W. A. Jones, Minneapolis; Vice-Chairman, Herman H. Hoppe, Cincinnati; Secretary, E. E. Southard, Boston; Delegate, Theodore Diller, Pittsburg, Pa.; Alternate, J. H. McBride, Pasadena, Cal.

The resolution deprecating the custom of printing details of suicides was adopted as the sense of the Section, and this action was ordered referred to the House of Delegates of the American Medical Association for action. [See next page, first column; see also The Journal, June 18, 1910, page 2076.]

Dr. Alfred Saenger, Hamburg, Germany, read an address on "Choked Disc in Its Relation to Cerebral Tumor and Trepanning." Discussed by Drs. J. Herbert Parsons, London; Julius Grinker, Chicago; J. Bordley, Jr., Baltimore; N. M. Black, Milwaukee, Wis., and Alfred Saenger, Hamburg, Germany.

Dr. Alfred Saenger, Hamburg, Germany, illustrated and discussed Wilbrand's prism test.

Dr. W. W. Graves presented two cases, one of brain tumor and another of a condition of hemianopsia, etc., resulting from skull fracture. Discussed by Dr. Alfred Saenger, Hamburg, Germany.

Dr. John Punton, Kansas City, Mo., read a paper on "The Plea of Insanity as a Defense for Crime and Its Remedy." Discussed by Drs. Louise G. Robinovitch, New York; David S. Booth, St. Louis; A. E. Sterne, Indianapolis; George A. Moleen, Denver; C. W. Thierny, St. Louis; L. V. Briggs, Boston; C. A. Wingerter, Wheeling, W. Va.; C. R. Woodson, St. Joseph, Mo.; Edward Bow, Jacksonville, Ill.; John Punton, Kansas City, Mo.; S. G. Burnett, Kansas City, Mo., and Sanger Brown, Chicago.

Drs. W. A. Jones and Arthur S. Hamilton, Minneapolis, presented a paper on "Hemiplegia Following Acute Infections." Discussed by Drs. M. M. Perry, Parsons, Kan.; Sanger Brown, Chicago; L. H. Mettler, Chicago, and W. A. Jones, Minneapolis.

Dr. George E. Pettey, Memphis, Tenn., read a paper on "The Treatment of Acute Ailments Occurring in Persons Addicted to Narcotic Drugs." No discussion.

Dr. George Edward Fell, Buffalo, N. Y., read a paper on "Twenty Years of Electrocution." No discussion.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

Tuesday, June 7—Afternoon

The Section was called to order at 2 p. m., in Association Hall, by the Chairman, Dr. J. N. Hurty, Indianapolis.

The Chairman read his address on "The Bookkeeping of Humanity." On motion of Dr. P. M. Townsend, Marshalltown, Iowa, duly seconded, the paper was referred to a committee of three, appointed by the Secretary, Dr. Marshall L. Price, Baltimore (temporarily acting as chairman), as follows: Dr. W. R. Batt, Harrisburg, Pa.; Dr. C. H. Jones, Baltimore, and Dr. P. M. Townsend, Marshalltown, Iowa. Discussed by Drs. Prince A. Morrow, New York; W. F. Snow, Sacramento, Cal.; Arthur Reynolds, Chicago; P. M. Townsend, Marshalltown, Iowa; Henry B. Hemenway, Evanston, Ill., and J. N. Hurty, Indianapolis.

Dr. Walter P. Bierring, Iowa City, Iowa, read a paper on "The Rôle of Pathology and Physiology in Preventive Medicine."

Dr. Joseph P. Remington, Philadelphia, read a paper on "The Rôle of Pharmacy in Preventive Medicine."

These two papers were discussed by Drs. Seneca Egbert, Philadelphia, and William Le Roy Dunn, Asheville, N. C.; W. A. Evans, Chicago; Liston H. Montgomery, Chicago; J. N. Hurty, Indianapolis; George Edward Fell, Buffalo, N. Y.; Walter P. Bierring, Iowa City, Iowa, and Joseph P. Remington, Philadelphia.

Dr. G. Lloyd Magruder, Washington, D. C., read a paper entitled "Further Observations on the Milk-Supply of Washington, D. C.," with illustrative lantern slides. Discussed by Drs. William C. M. Woodward, Washington, D. C.; William H. Welch, Baltimore; B. Franklin Royer, Harrisburg, Pa.; William Edward Grant, Louisville, Ky.; Seneca Egbert, Philadelphia. A vote of thanks to the author of the paper, Dr. Magruder, was moved by Dr. W. Forrest Dutton, Carnegie, Pa., and given.

The Secretary, on behalf of the officers of the Section, then nominated for associate membership in the American Medical Association John M. Glenn of New York, director of the Russell Sage Foundation. The report was adopted, and the nomination referred to the House of Delegates.

Wednesday, June 8—Morning

Dr. Henry B. Hemenway, Evanston, Ill., offered the following resolution:

> According to the published reports of the Census Bureau there has been a great and marked increase in the number of suicides in this country. The death-rate from this cause per hundred thousand was as follows: 1902, 12.7; 1903, 13.9; 1904, 14.8; 1905, 16.1; 1906, 14.3; 1907, 16.2; 1908, 18.5. An increase of practically 50 per cent. in the seven years demands investigation and energetic action. The publication in the secular papers of these unfortunate occurrences can do no one good; on the other hand, it is well recognized by those in a position to judge that such publication has a powerful suggestive effect on susceptible individuals, and it is unquestionably one of the most active causes of this form of death; therefore, be it
>
> *Resolved*, That such publication of accounts of suicides is detrimental to the good of the people in this country, and that we request the House of Delegates to take action in the case by requesting the press of the land to stop such publication; and, further, that the Legislative Committee be instructed to further the enactment of a national law forbidding the use of the mails by any paper making such publication; and, further, that the same committee be instructed to assist in the passage of state laws making such publication a misdemeanor and providing suitable punishment therefor.

This resolution was approved by the Section for submission to the House of Delegates. [The House adopted a substitute of similar import. The Journal, June 18, page 2076.]

The Chairman appointed as a Committee on Nominations Drs. W. Forrest Dutton, Carnegie, Pa.; T. R. Crowder, Chicago, and J. E. King, Richmond, Ind.

Dr. Wilmer R. Batt, Harrisburg, Pa., on behalf of the committee to which the Chairman's address was referred, recommended its early publication and wide distribution.

The Chairman explained that he had not, in the session of June 7, 1910, given Dr. G. Lloyd Magruder opportunity to make the final statement in regard to the latter's paper, "Further Observations on the Milk-Supply of Washington, D. C.; Dr. Magruder then spoke.

Dr. Seneca Egbert, Philadelphia, read the Oration on State Medicine and Hygiene. Discussed by Drs. Henry B. Hemenway, Evanston, Ill.; W. A. Evans, Chicago; Rosalie Slaughter Morton, New York; Arthur Reynolds, Chicago; William C. Woodward, Washington, D. C.; John H. White, New Orleans; Mazyck P. Ravenel, Madison, Wis. Dr. Marshall Langton Price, Baltimore, moved a vote of thanks to Dr. Egbert, which was given.

Dr. Henry B. Hemenway, Evanston, Ill., offered the following resolution:

> Whereas: Public health administration is greatly helped by popular education and cannot advance far beyond the state of common knowledge; and
>
> Whereas: Our literary colleges and normal schools to-day give practically no instruction of this kind; and
>
> Whereas: Much of the instruction in the graded schools of the land is based on misinformation; therefore be it
>
> *Resolved*, That such instruction by lectures or otherwise should be given in every such institution of learning, and
>
> *Resolved*, That the House of Delegates be asked to appoint a committee to promote a course of instruction in all literary colleges and normal schools.

This was adopted for submission to the House of Delegates [which referred it to the newly-formed Council on Health and Public Instruction. The Journal, June 18, page 2076.]

Dr. Joseph Collins, New York, read a paper on "The Epidemiology of Poliomyelitis and Cerebrospinal Meningitis." Discussed by J. N. Hurty, Indianapolis.

Dr. Hiram Woods, Baltimore, read a paper on "The Rôle of Ophthalmology in Preventive Medicine. Discussed by Drs. Leartus Connor, Detroit; Prince A. Morrow, New York; Seneca Egbert, Philadelphia; Henry B. Hemenway, Evanston, Ill.; W. Forrest Dutton, Carnegie, Pa.; and Hiram Woods, Baltimore.

Dr. Thomas S. Southworth, New York read a paper on "The Rôle of Pediatrics in Preventive Medicine." No discussion.

Wednesday, June 8—Morning

The following papers were read and discussed as a symposium on Hookworm and Pellagra:

Dr. John D. Long, Washington, D. C.: "Pellagra," illustrated by lantern slides.

Dr. Charles W. Stiles, Washington, D. C.: "Sanitary Phases of the Hookworm Problem," illustrated by lantern slides.

Dr. Allen W. Freeman, Richmond, Va.: "Hookworm Disease: The Farm; the Next Point of Attack in Sanitary Progress."

These three papers were discussed by Drs. Marshall Langton Price, Baltimore; John L. Jelks, Memphis, Tenn.; C. C. Bass, New Orleans; James W. Babcock, Columbia, S. C.; William L. Medling, Nashville, Tenn.; Seneca Egbert, Philadelphia; John D. Long, Washington, D. C.; Charles W. Stiles, Washington, D. C.; J. N. Hurty, Indianapolis, Ind., and Allen W. Freeman, Richmond, Va.

Dr. W. Forrest Dutton, Carnegie, Pa., read a paper on "Present-Day Problems and Progress in Prevention of Typhoid Fever,"

Dr. George Edward Fell, Buffalo, N. Y., read a paper on "The Currents at the Eastern End of Lake Erie and the Head of Niagara River: Their Influence on the Sanitation of the City of Buffalo, N. Y.," illustrated with lantern slides.

These two papers were discussed by Drs. H. W. Hill, Minneapolis; C. Hampson Jones, Baltimore; Liston H. Montgomery, Chicago; W. Forrest Dutton, Carnegie, Pa., and Seneca Egbert, Philadelphia.

Dr. I. D. Rawlings, Chicago, read a paper on "The Campaign Against Diphtheria and Scarlet Fever in Chicago."

Dr. C. Hampson Jones, Baltimore, read a paper on "What Can Health Departments Do to Control Scarlet Fever?"

These two papers were discussed by Drs. Henry B. Hemenway, Evanston, Ill.; B. Franklin Royer, Harrisburg, Pa.; H. W. Hill, Minneapolis; Seneca Egbert, Philadelphia; R. M. Winn, Hannibal, Mo.; G. Koehler, Chicago; H. Delamater, Kansas City, Mo.; I. D. Rawlings, Chicago, and C. Hampson Jones, Baltimore.

By motion duly made and carried, Papers 15 and 16 were made the first order of business for the ensuing meeting.

Thursday, June 9—Morning

Dr. T. D. Crothers, Hartford, Conn., read a paper on "The Relation of Alcoholism and Drug Addictions to Preventive Medicine." Discussed by Drs. Liston H. Montgomery, Chicago, and J. N. Hurty, Indianapolis.

Dr. W. Forrest Dutton, Carnegie, Pa., Chairman of Committee on Nominations, submitted the following nominations: Chairman, Dr. W. A. Evans, Chicago; Vice-Chairman, Dr. Marshall Langton Price, Baltimore; Secretary, Dr. C. Hampson Jones, Baltimore, Md.; Delegate, Dr. J. N. Hurty, Indianapolis; Alternate, Dr. J. H. White, New Orleans. The Secretary was instructed to cast the ballot for these nominees, and they were declared elected.

Dr. Arthur Reynolds moved the nomination of Dr. W. A. Evans, Chicago, as Orator on State Medicine and Hygiene, which was seconded, and Dr. Evans was elected, and made a stirring speech foreshadowing the creation of a Council on Public Health, whose function should largely be the coordination of work now done nation-wide in the interests of public health.

Dr. W. C. Gorgas, Ancon, Canal Zone, declared his sympathy with the Chairman-Elect's program for widening the scope of the Section.

Dr. Arthur Reynolds, Chicago, moved "That the Chairman of this Section be empowered to appoint such committees as in his judgment seem wise, to carry out the purposes he has outlined." Seconded and carried.

Dr. Miles F. Porter, Fort Wayne, Ind., read a paper on "The Rôle of Surgery in Preventive Medicine." Discussed by Drs. J. N. Hurty, Indianapolis; Seneca Egbert, Philadelphia; Liston H. Montgomery, Chicago; H. W. Hill, Minneapolis, and Walter P. Manton, Detroit.

Dr. Walter P. Manton, Detroit, read a paper on "The Rôle of Obstetrics in Preventive Medicine." Discussed by Drs. J. N. Hurty, Indianapolis; Henry B. Hemenway, Evanston, Ill.; P. M. Townsend, Marshalltown, Iowa; Charles W. Stiles, Washington, D. C.; C. Hampson Jones, Baltimore; Seneca Egbert, Philadelphia, and Walter P. Manton, Detroit.

Dr. J. J. Kyle, Indianapolis, read a paper on "The Rôle of Rhinology and Otology in Preventive Medicine." Discussed by Drs. Robert Levi, Denver; J. D. MacLaren, Norman, Okla.; H. W. Hill, Minneapolis; Liston H. Montgomery, Chicago; William H. Rush, St. Louis, and J. J. Kyle, Indianapolis.

Dr. Hibbert W. Hill, Minneapolis, read a paper on "Acute Epidemic Anterior Poliomyelitis." Discussed by Drs. J. M. Allen, Liberty, Mo.; Hibbert W. Hill, Minneapolis; W. Forrest Dutton, Carnegie, Pa.; Julius Lingenfelder, West Point, Neb., and Seneca Egbert, Philadelphia.

Dr. W. H. Rennie, Washington, D. C., read a paper on "The Relation of Recruiting to Preventive Medicine." Discussed by Drs. Marshall Langton Price, Baltimore, and J. N. Hurty, Indianapolis.

Dr. Henry B. Hemenway, Evanston, Ill., read a paper on "Legal Aspects of Domestic Quarantine." Discussed by Drs. John H. White, New Orleans; B. Franklin Royer, Harrisburg, Pa.; W. A. Evans, Chicago; W. F. Snow, Sacramento, Cal., and Henry B. Hemenway, Evanston, Ill.

The Chairman, with assent of the Section, arranged to send a telegram of sympathy and regret to Dr. H. M. Bracken, Minneapolis, who was reported to be ill with typhoid fever.

Thursday, June 9—Afternoon

Dr. Hyman Cohen, Chicago, read a paper on "House Quarantine." Discussed by Drs. B. Franklin Royer, Harrisburg, Pa.; Seneca Egbert, Philadelphia; I. D. Rawlings, Chicago, and Hyman Cohen, Chicago.

A paper by Dr. John H. White, New Orleans, on "The Permanent Elimination of Yellow Fever from the Earth," was read by Dr. Henry B. Hemenway, Evanston, Ill. No discussion.

Dr. Charles W. Stiles, Washington, D. C., exhibited two models of privies, describing details of construction and choice of color of paint to be applied, stating that flies were attracted by light colors, mosquitoes by dark colors; and further, that he had succeeded in placing privy construction on the manual training curricula of some schools. Discussed by Drs. J. N. Hurty, Indianapolis; Seneca Egbert, Philadelphia, and H. W. Hill, Minneapolis.

Dr. D. T. Quigley, North Platte, Neb., read a paper on "The Work of Prevention in Nebraska." Discussed by Dr. J. N. Hurty, Indianapolis.

Dr. W. A. Evans, Chicago, read a paper on "The Ventilation of School Buildings." Discussed by Drs. Henry B. Hemenway, Evanston, Ill.; Seneca Egbert, Philadelphia; J. N. Hurty, Indianapolis, and W. A. Evans, Chicago.

Dr. Gottfried Koehler, Chicago, read a paper by himself, and Dr. C. S. Clair Drake, Chicago, on "The Prevention of Infant Mortality." No discussion.

Dr. Fred O. Tonney, Chicago, read a paper on "Tuberculosis in the Raw Milk-Supply of Chicago." Discussed by Drs. W. A. Evans, Chicago, and Fred O. Tonney, Chicago.

Dr. B. L. Arms, Boston, read a paper on "The Strauss Reaction for the Diagnosis of Glanders." Discussed by Drs. H. W. Hill, Minneapolis, and B. L. Arms, Boston.

Installation of the officers-elect then followed, and the Section adjourned for 1910.

SECTION ON STOMATOLOGY

Tuesday, June 7—Afternoon

The meeting was called to order by the Chairman, Dr. Thomas L. Gilmer, Chicago, at 2:30 p. m., in Small Hall, Y. M. C. A. Building.

The Chairman then read his address. Discussed by Drs. M. H. Fletcher, Cincinnati; Frederick B. Noyes, Chicago; James E. Power, Providence, R. I.; Eugene S. Talbot, Chicago.

The Chairman appointed the three following as members of the Executive Committee: Drs. William E. Fisher, New York; J. E. Power, Providence, R. I.; Frederick B. Noyes, Chicago.

Dr. Stewart L. McCurdy, Pittsburg, Pa., read a paper on "The Pathology and Treatment of Alveolar Abscess." Discussed by Drs. George V. I. Brown, Milwaukee, Wis.; J. E. Power, Providence, R. I.; William E. Fisher, New York; Eugene S. Talbot, Chicago; Frederick Noyes, Chicago, and C. W. Harned, Iowa City, Iowa.

Dr. Frederick B. Noyes, Chicago, read a paper on "The Relation of the Teeth to the Development of the Jaws and the Face." Discussed by Drs. M. H. Fletcher, Cincinnati; B. E. Lischer, St. Louis; J. Porter Farm, Ardmore, Okla.; Stewart L. McCurdy, Pittsburg, Pa., and Eugene S. Talbot, Chicago.

Dr. Nelson M. Black, Milwaukee, Wis., read a paper on "Improvement in the General Health of Children Having an Inclination toward Nasal Stenosis by Widening the Nasal Arch." Discussed by Drs. J. Porter Farm, Ardmore, Okla.; Richard Summa, St. Louis; Frederick B. Noyes, Chicago; George V. I. Brown, Milwaukee, Wis., and Eugene S. Talbot, Chicago.

Wednesday, June 8—Morning

A Committee on Nominations was appointed as follows: Drs. M. H. Fletcher, Cincinnati; L. P. Bethel, Columbus, Ohio, and J. E. Power, Providence, R. I.

A symposium was presented on "How Shall the Stomatologist be Educated," by Drs. Eugene S. Talbot, Chicago; James E. Power, Providence, R. I.; M. H. Cryer, Philadelphia.

These three papers were discussed by Drs. J. N. Farrar, New York; Arthur R. Dray, Philadelphia; Eugene H. Smith, Boston; M. H. Fletcher, Cincinnati; Stewart L. McCurdy, Pittsburg, Pa.; J. P. Gray, Nashville, Tenn.; N. P. Colwell, Chicago; Arthur Dean Bevan, Chicago; John M. Dodson, Chicago; Frederick B. Noyes, Chicago; G. V. I. Brown, Milwaukee; Fred C. Zapffe, Chicago; H. A. Potts, Chicago; J. M. Matthews, Liberty, Mo.; T. W. Brophy, Chicago.

On recommendation of the Secretary the following resolution was passed:

Resolved, That a committee of three be appointed by the chairman to confer with the Association of American Medical Colleges and the Council on Medical Education of the American Medical Association and with such other bodies and individuals as may be necessary to bring about harmonious results in stomatologic education.

Wednesday, June 8—Afternoon

Dr. M. H. Fletcher, Cincinnati, read a paper entitled "A Study of the Repair of the Cementum." Discussed by Drs. Frederick Noyes, Chicago; G. V. I. Brown, Milwaukee, Wis; T. W. Brophy, Chicago; Eugene S. Talbot, Chicago; William E. Fisher, New York, and Frederick B. Noyes, Chicago.

Dr. Henry R. Harrower, Chicago, read a paper on "Metabolism and Mouth Disease." Discussed by Drs. Eugene S. Talbot, Chicago, and G. V. I. Brown, Milwaukee, Wis.

Dr. Herbert A. Potts, Chicago, read a paper on "The Teeth as a Factor in Pathogenesis."

Dr. Frederick B. Moorehead, Chicago, read a paper on "The Teeth and Alveolar Processes as Points of Entrance for the Tubercle Bacillus."

These two papers were discussed by Drs. James E. Power, Providence, R. I.; M. H. Fletcher, Cincinnati; T. W. Brophy, Chicago; Eugene S. Talbot, Chicago; William E. Fisher, New York; V. P. Blair, St. Louis; Stewart L. McCurdy, Pittsburg, Pa.; H. A. Potts and F. B. Moorehead, Chicago.

The Chairman appointed a Committee on Stomatologic Education, as specified above, as follows: Chairman, Dr. Eugene S. Talbot, Chicago; Dr. H. E. Potts, Chicago, and Dr. Frederick B. Moorehead, Chicago.

Thursday, June 9—Morning

On recommendation of the Nominating Committee, the following officers were elected for the ensuing year: Chairman, Dr. S. L. McCurdy, Pittsburg; Vice-Chairman, Dr. Virgil Loeb, St. Louis; Secretary, Dr. Eugene S. Talbot, Chicago; Delegate, Dr. G. V. I. Brown, Milwaukee, Wis.; Alternate, Dr. M. H. Fletcher, Cincinnati.

Dr. Lee Wallace Dean, Iowa City, Iowa, read a paper on "The Influence on the Nose of Widening the Palatal Arch." Discussed by Drs. G. V. I. Brown, Milwaukee, Wis.; Eugene S. Talbot, Chicago; Stewart L. McCurdy, Pittsburg, Pa.; L. P. Bethel, Columbus, Ohio, and M. H. Fletcher, Cincinnati.

Dr. James E. Power, Providence, R. I., read a paper on "The Value of Vaccines in Oral Surgery." Discussed by Drs. G. V. I. Brown, Milwaukee, Wis.; Stewart L. McCurdy, Pittsburg, Pa.; W. E. Fisher, New York; M. H. Fletcher, Cincinnati; L. W. Dean, Iowa City, Iowa, and Eugene S. Talbot, Chicago.

Dr. G. V. I. Brown, Milwaukee, Wis., read a paper on "The Surgical Principles of Hair-Lip Operation." Discussed by Drs. Stewart L. McCurdy, Pittsburg, Pa., and M. H. Fletcher, Cincinnati.

Dr. Bertha E. Bush, Chicago, read a paper on "The Close Relations between the Physician and the Dentist." Discussed by Dr. Lee Wallace Dean.

Dr. Charles M. Whitney, Boston, read a paper on "The Mouth Lesions of Syphilis and the Dangers Arising Therefrom." Discussed by Dr. Stewart L. McCurdy, Pittsburg, Pa.

Dr. Vida A. Latham, Chicago, read a paper on "Systemic Conditions in Relation to Oral Symptoms; Pain, Fetor and Sepsis." Discussed by Drs. G. V. I. Brown, Milwaukee, Wis., and M. H. Fletcher, Cincinnati.

SECTION ON DISEASES OF CHILDREN

Tuesday, June 7—Afternoon

The meeting was called to order at 2 p. m., in Grand Avenue Presbyterian Church, by the Chairman, Dr. William J. Butler, Chicago, who then read his address entitled, "Enteroptosis in Children."

Drs. Samuel M. Hamill and Kenneth D. Blackfan, Philadelphia, presented a paper on "The Diagnosis and Treatment of Chronic Intestinal Indigestion in Children." Discussed by Drs. H. B. Coit, Newark, N. J.; C. G. Kerley, New York; L. T. Royster, Norfolk, Va.; H. M. McClanahan, Omaha, Neb.; E. E. Graham, Philadelphia; John Lovett Morse, Boston; F. B. Talbot, Boston, and S. M. Hamill.

Dr. Thomas D. Parke, Birmingham, Ala., read a paper on "Further Report of Cases with Complicating Ileocolitis and Probably Due to Acidosis." Discussed by Drs. John Zahorsky, St. Louis; Isaac A. Abt, Chicago, and T. D. Parke, Birmingham, Ala.

Dr. C. Gilmore Kerley, New York, read a paper on "Atypical Scarlet Fever." Discussed by Drs. O. T. Moore, St. Louis; S. E. Munson, Springfield, Ill.; Kepler, Michigan, and C. G. Kerley, New York.

Dr. H. M. Folkes, Biloxi, Miss., read a paper on "Infectious Diseases in Negro Children." Discussed by Drs. L. T. Royster, Norfolk, Va., and H. M. Folkes, Biloxi, Miss.

Dr. John Lovett Morse, Boston, read a paper on "Agar-Agar in the Treatment of Constipation in Childhood." Discussed by Drs. Alfred Friedlander, Cincinnati; C. G. Kerley, New York; Godfrey R. Pisek, New York, and J. L. Morse, Boston.

The Secretary read a letter from Trustees of the American Medical Association concerning the establishment of a pediatric journal, and moved that the Section endorse the proposition and that the matter be referred to the Executive Committee of the Section with power to act. Discussed by Drs. William Butler, Chicago; C. G. Kerley, New York; J. M. Dodson, Chicago; A. C. Cotton, Chicago; D. W. Graham, Chicago; F. S. Churchill, Chicago; G. H. E. Rosamond, Memphis; and J. W. Van Derslice, Chicago.

Wednesday, June 8—Morning

Drs. Jerome S. Leopold, New York, and I. Rosenstern, Berlin, presented a paper on "The Significance of Tuberculides in the Diagnosis of Tuberculosis in Infants." Discussed by Drs. F. C. Neff, Kansas City, Mo.; Frank Gengenbach, Denver; W. D. Hoskins, Indianapolis; C. F. Wahrer, Fort Madison, Iowa; C. G. Kerley, New York, and J. S. Leopold, New York.

Theodore J. Elterich, Pittsburg, Pa., read a paper on "A Clinical Study of a Case of Pseudoleucemic Anemia of Infancy." Discussed by Drs. J. B. Hultgen, Chicago; C. F. Wahrer, Fort Madison, Iowa, and T. J. Elterich, Pittsburg, Pa.

Dr. A. D. Bevan, Chicago, read a paper on "The Surgical Treatment of Congenital Pyloric Stenosis." Discussed by Drs. H. M. McClanahan, Omaha; John Lovett Morse, Boston; Isaac A. Abt, Chicago; E. J. Porteous, Atlantic City, N. J.; C. G. Kerley, New York; H. Stern, New York; Katherine B. Richardson, Kansas City, Mo.; F. B. Talbot, Boston; F. S. Churchill, Chicago; Frank Gengenbach, Denver; H. L. Coit, Newark, N. J.; William Butler, Chicago, and A. D. Bevan, Chicago.

Dr. H. M. McClanahan, Omaha, Neb., read a paper entitled, "A Brief History of the Nebraska Epidemic of Poliomyelitis." Discussed by Drs. C. A. Anderson, Stromsburg, Neb.; E. H. Bartley, New York., and H. M. McClanahan, Omaha, Neb.

Dr. J. W. Van Derslice, Chicago, read a paper on "Rachitis." No discussion.

Dr. Heinrich Stern, New York, read a paper on "Blood-Letting in Children." Discussed by Drs. E. M. Sill, New York; A Jacobi, New York; William Butler, Chicago, and H. Stern, New York.

Dr. H. L. Coit, Newark N. J., presented an instrument for determining temperature in sterilization of milk.

Wednesday, June 8—Afternoon

The following four papers were discussed together:

Dr. A. C. Cotton, Chicago, "Disturbances of Lactation."

Dr. Charles Douglas, Detroit, "Feeding of Fats to Infants and Difficulties Encountered in Feeding Them."

Dr. F. B. Talbot, Boston, "The Digestion of Fat in Infancy."

Dr. Thomas S. Southworth, New York, "Complemental Feeding of the Infant as an Effective Aid in Maintaining Maternal Nursing."

These four papers were discussed by Drs. John Zahorsky, St. Louis; Effa Davis, Chicago; J. P. Sedgwick, Minneapolis; John Lovett Morse, Boston; C. F. Wahrer, Fort Madison, Iowa; Jules M. Brady, St. Louis; C. G. Kerley, New York; A. C. Cotton, Chicago; Charles Douglas, Detroit; F. B. Talbot, Boston, and T. S. Southworth, New York.

Drs. Jerome Alexander and Jesse G. M. Bullowa, New York, presented a paper on "The Influence of Colloidal Protection on Milk." Discussed by Drs. F. S. Churchill, Chicago; E. H. Bartley, New York; Thomas S. Southworth, New York, and Jerome Alexander, New York.

Dr. J. P. Sedgwick, Minneapolis, read a paper on "Creatinin and Creatin Metabolism in Children." No discussion.

Dr. E. H. Bartley, New York, offered the following resolution, which was carried:

> *Resolved*, That the Chairman of this section appoint a committee of three members to be known as the Committee on Hygiene and Publicity to act in conjunction with or under the direction of the proposed Committee on Health and Public Instruction of the American Medical Association.

The Chairman appointed the following on that committee: Drs. E. H. Bartley, New York; A. C. Cotton, Chicago, and Dr. C. G. Kerley, New York.

Thursday, June 9—Morning

Dr. Isaac A. Abt, Chicago, read a paper on "A Case of Amaurotic Family Idiocy with Autopsy and Histologic Report." Discussed by Drs. John Lovett Morse, Boston, and I. A. Abt, Chicago.

Dr. C. C. Rogers, Chicago, read a paper on "Intracranial Surgical Lesions in Children." Discussed by Drs. E. H. Abbott, Elgin, Ill.; C. G. Kerley, New York, and C. C. Rogers, Chicago.

Dr. Samuel Lloyd, New York, read a paper on "Surgical Treatment of Empyema." Discussed by Drs. E. E. Graham, Philadelphia; I. A. Abt, Chicago; C. C. Rogers, Chicago, and Samuel Lloyd, New York.

Dr. J. Ross Snyder, Birmingham, Ala., presented the report of the Nominating Committee, recommending the election of the following officers: Chairman, Dr. Samuel M. Hamill, Philadelphia; Vice-Chairman, Dr. Thomas D. Parke, Birmingham, Ala.; Secretary, Dr. L. T. Royster, Norfolk, Va.; Delegate, Dr. A. C. Cotton, Chicago.

The report as read was adopted and the officers were elected.

Dr. Snyder presented the report of the Executive Committee as follows:

> In compliance with a motion adopted in the Section on the day previous, your Executive Committee held a meeting at 8:30 a. m., June 8, 1910, to take action on the proposed establishment of a special journal devoted to the diseases of children. After unanimously voting approval of the recommendation to the Board of Trustees for the publication of a journal of this nature, the Executive Committee adjourned to meet a committee appointed some time ago by the Board of Trustees to consider the desirability of such a journal, its name, its purposes and scope, manner of publication, etc. At this joint committee meeting it was voted to recommend to the Trustees that the proposed journal be called the *American Journal of the Diseases of Children*. The following recommendations were also adopted: that it should contain original articles and abstracts; that it should contain an occasional complete review. compiled by men appointed by the executive board; that it should begin as a bimonthly of approximately 64 pages in each issue; that it should be of smaller size than the *Archives of Internal Medicine;* that the editors should elect their own chairman; and that the subscription price be determined by the Trustees.
>
> The Russell Sage Foundation, Department of Child-Helping, asks that the Section lend its endorsement to the particular kind of work that this department is carrying on. A feature of this work is the placing of infants from foundling asylums, the training of social workers, etc. Several members of your committee are familiar with the nature and character of this work. The work has been endorsed by the American Pediatric Society. Therefore, the committee would recommend that the Section lend its approval to the work of the Department of Child-Helping, Russell Sage Foundation.

It was moved by Dr. G. R. Pisek, New York, seconded and carried, that the report as read be adopted.

Dr. Samuel W. Kelley, Cleveland, read a paper on "Surgical Mistakes in Practice on Infants and Children." Discussed by Drs. Frank Gengenbach, Denver; John Zahorsky, St. Louis, and S. W. Kelley, St. Louis.

Dr. E. Mather Sill, New York, read a paper entitled "Dietary Studies of Undernourished School Children in New York City." Discussed by Drs. N. R. Coleman, Columbus, Ohio; C. F. Wahrer, Fort Madison, Iowa; C. G. Kerley, New York; S. W. Kelley, Cleveland; G. M. Cattermole, Colorado.

President William H. Welch addressed the Section.

Thursday, June 9—Afternoon

Dr. S. G. Gant, New York, read a paper on "Treatment of Some Colonic, Sigmoidal, Rectal and Anal Affections Common to Infancy and Childhood." Discussed by Drs. L. J. Hirschman, Detroit; C. F. Wahrer, Fort Madison, Iowa; G. S. Hanes, Louisville, Ky.; E. H. Thrailkill, Kansas City, Mo., and S. G. Gant, New York.

Drs. Louis A. Levison and Harry Dachtler, Toledo, Ohio, read a paper on "A Clinical and Roentgenographic Study of the Essential Differences Between the Physical Findings in Childhood and Adult Life." Discussed by Dr. F. Smithies, Ann Arbor, Mich.

Dr. C. F. Wahrer, Fort Madison, Iowa, read a paper on 'Foibles in Specialism." No discussion.

Drs. Eli Long and E. Caldwell, New York, presented a paper on "A Study of the Anatomic Index in Children." Discussed by Drs. Cattermole, Colorado, and Eli Long, New York.

Dr. L. T. Royster, Norfolk, Va., read a paper on "The Prevention of Infant Mortality from an Educational Point of View." Discussed by Dr. S. W. Kelley, Cleveland.

Dr. H. W. Cheney, Chicago, read a paper on "Subnormal Temperature in Infancy." Discussed by Drs. J. S. Leopold, New York; Godfrey R. Pisek, New York; William Butler, Chicago; Frank Gengenbach, Denver, and H. W. Cheney, Chicago.

SECTION ON DERMATOLOGY

Tuesday, June 7—Afternoon

The Section was called to order at 2 p. m. in Odeon Recital Hall by the Chairman, Dr. Grover W. Wende, Buffalo, who delivered an address on "Dermatology in General Practice."

Dr. Frank Crozer Knowles, Philadelphia, read a paper on "Purpura Caused by the Ingestion of the Iodids." Discussed by Drs. Howard Fox, New York; J. A. Fordyce, New York, and F. C. Knowles, Philadelphia.

Dr. Alfred Schalek, Omaha, Neb., read a paper on "Pemphigus Foliaceus. Report of a Case." Discussed by Drs. M. McMahon, Palmyra, Ill.; H. H. Hazen, Washington, D. C.; E. S. Lain, Oklahoma City, and A. Schalek, Omaha, Neb.

Dr. Charles J. White, Boston, read a paper on "Alopecia." Discussed by Drs. William O. Roop, Dayton; Frank C. Knowles, Philadelphia; J. M. King, Nashville; Alfred Schalek, Omaha; J. B. Kessler, Iowa City; Isadore Dyer, New Orleans; M. L. Heidingsfeld, Cincinnati; William Frick, Kansas City; William A. Pusey, Chicago; J. Grindon, St. Louis; J. B. Kessler, Iowa City, Iowa; Frances Rowley, Galveston, Tex., and C. J. White, Boston.

Dr. William Frick, Kansas City, Mo., read a paper on "Dermatitis Exfoliativa." Discussed by Dr. Frank C. Knowles, Philadelphia.

Drs. William T. Corlett and Harold Newton Cole, Cleveland, presented "A Report of Three Epidemics of Anomalous Scarlet Fever." Discussed by Dr. W. L. Baum, Chicago.

The Chairman named the following Nominating Committee: Drs. Charles J. White, W. L. Baum and Howard Fox.

Wednesday, June 8—Morning

This was a clinical meeting.

Dr. R. P. Price, Nevada, Mo., presented two cases of pellagra from the Missouri State Hospital, No. 3. These cases were discussed by Drs. A. Ravogli, Cincinnati; James W. Babcock, Columbia, S. C.; William T. Corlett, Cleveland; J. W. King, Nashville, Tenn., and John D. Long, United States Marine and Public Health Hospital Service, Washington, D. C.

Wednesday, June 8—Afternoon

The following five papers were read and discussed as a Symposium on Cancer:

Dr. Leo Loeb, Philadelphia: "The Present Status of the Etiology of Malignant Growths of the Skin."

Dr. John A. Fordyce, New York: "Pathology of the Malignant Growths of Epithelial Tissue," with lantern-slide demonstrations.

Dr. F. B. Mallory, Boston: "Pathology of Malignant Diseases of Non-Epithelial Formation," with lantern-slide demonstrations.

Dr. Joseph C. Bloodgood, Baltimore: "Surgical Treatment of Cutaneous Malignant Growths."

Dr. William Allen Pusey, Chicago: "Treatment of Malignant Growths of the Skin from a Dermatologic Standpoint."

These five papers were discussed by Drs. E. R. LeCount, Chicago; G. W. Jobling, Chicago; F. B. Mallory, Boston; J. W. Vaughan, Detroit; Willy Meyer, New York; William T. Corlett, Cleveland; A. Ravogli, Cincinnati; J. A. Fordyce, New York; J. C. Bloodgood, Baltimore, and W. A. Pusey, Chicago.

On motion of Dr. Corlett, a vote of thanks was extended to those who had participated in this symposium, and especially to those who were not members of the Section.

On motion the election of officers, scheduled for Thursday morning, was postponed until the afternoon session.

Thursday, June 9—Morning

This was a clinical session.

Dr. George A. Zeller, Superintendent of the State Hospital at Peoria, Ill., presented a number of pellagra cases. Discussed by Drs. James W. Babcock, Columbia, S. C.; Marcus Haase, Memphis, Tenn.; Tinsley Browne, Hamilton, Mo.; Oliver S. Ormsby, Chicago; Howard Fox, New York; Isadore Dyer, New Orleans, and A. J. Vance, Harrison, Ark.

On motion of Dr. William A. Pusey, Chicago, as amended by Dr. M. L. Heidingsfeld, Cincinnati, a vote of thanks was unanimously extended to the Board of Administration of the State of Illinois and to the Board of Governors of the Missouri State Hospital No. 3, at Nevada, Mo., for their kindness and interest in sending a number of pellagra patients to this meeting, where they had afforded unusual opportunity for the study and investigation of this very important subject; also to Drs. Zeller, Lamson, Price and Babcock and others, who had assisted in this valuable presentation.

Thursday, June 9—Afternoon

Dr. James N. Hyde, Chicago, presented a paper on the "Results of Experience with the Noguchi Modification of the Wassermann Serodiagnosis Test for Syphilis," which was read by Dr. J. F. Waugh, Chicago.

Dr. B. C. Corbus, Chicago, read a paper entitled "Two Years' Experience with the Wassermann Reaction in Practice, being a Preliminary Report on Fifty-seven Cases Treated from the Standpoint of the Wassermann Reaction."

These two papers were discussed by Drs. J. Grindon, St. Louis; M. L. Heidingsfeld, Cincinnati; J. A. Fordyce, New York; William Litterer, Nashville, Tenn.; W. T. Corlett, Cleveland; Alfred Schalek, Omaha; E. H. Martin, Hot Springs, Ark.; Edward Bowe, Jacksonville, Ill.; Oliver S. Ormsby, Chicago; V. J. Cohenour, Joliet, Ill.; J. F. Waugh, Chicago, and B. C. Corbus, Chicago.

On recommendation of the Nominating Committee the following officers were elected for the ensuing year: Chairman, James C. White, Boston, Vice-Chairman, Martin F. Engman, St. Louis; Secretary, H. R. Varney, Detroit; Delegate, J. A. Fordyce, New York.

Dr. O. H. Foerster, Milwaukee, read a paper on "Primula Dermatitis." No discussion.

Dr. Marcus Haase, Memphis, read a paper on "A Chronic Itching Papular Eruption of the Axilla, Pubes and Breast." Discussed by Dr. J. A. Fordyce, New York.

Drs. Isadore Dyer and Ralph Hopkins, New Orleans, presented a paper on "The Diagnosis of Leprosy." Discussed by Drs. J. Grindon, St. Louis; A. Ravogli, Cincinnati; Marcus Haase, Memphis; S. T. Darling, Ancon Hospital, Canal Zone; William Litterer, Nashville, and Isadore Dyer, New Orleans.

Dr. Oliver S. Ormsby, Chicago, read a paper on "Lichen Planus Atrophicus (Hallopeau)." No discussion.

Dr. M. L. Heidingsfeld, Cincinnati, presented a paper on "Hairy Tongue," with lantern-slide illustrations. No discussion.

Dr. Richard L. Sutton, Kansas City, Mo., read a paper on "Lichen Nitidus." Discussed by Drs. J. A. Fordyce, New York, and R. L. Sutton, Kansas City, Mo.

On motion of Dr. M. L. Heidingsfeld, Cincinnati, a vote of thanks was extended to the retiring Chairman and to the Secretary for their efficient services; also to the members of the Section living in St. Louis for their kind entertainment, and their efforts which had resulted in making this one of the most successful meetings in the history of this organization.

Friday, June 10—Morning

This was a clinical meeting, devoted to the presentation of patients and specimens.

Dr. R. H. Davis, St. Louis, showed a case for diagnosis, possibly syphilis of the face. No discussion.

Dr. Davis also showed a case of bromid eruption of the leg. Discussed by Drs. Oliver S. Ormsby, Chicago; Frank C. Knowles, Philadelphia; J. M. King, Nashville; Julius Grinker, Chicago; and R. H. Davis, St. Louis.

Dr. Martin F. Engman, St. Louis, showed a case of hypertrophic lupus in a negro boy. No discussion.

Dr. Engman showed a case of blastomycotic dermatitis. Discussed by Drs. A. Ravogli, Cincinnati; J. B. Kessler, Iowa City; John D. Seba, Bland, Mo.; J. M. King, Nashville, and Engman.

Dr. Engman showed a case of keratosis follicularis (Darier). Discussed by Dr. F. C. Knowles, Philadelphia.

Dr. Engman showed a case for diagnosis. Discussed by Drs. Alexander S. Wolf, St. Louis; William T. Cortlett, Cleveland; and H. H. Hazen, Washington.

Dr. Engman showed a case of mycosis fungoides. Discussed by Dr. Howard Fox, New York.

Dr. W. H. Mook, St. Louis, showed a case of epidermolysis bullosa and one of vitiligo. The latter was discussed by Dr. Frank C. Knowles, Philadelphia.

Dr. William W. Graves, St. Louis, showed a number of boys with scaphoid scapula and made some remarks on the subject. Discussed by Drs. A. Jacobi, New York; Ira C. Chase, Fort Worth; Alfred Saenger, Hamburg, Germany; A. Ravogli, Cincinnati; Julius Grinker, Chicago; Albert E. Sterne, Indianapolis; and W. W. Graves, St. Louis.

Dr. R. H. Davis, St. Louis, showed the specimen of a case of congenital ichthyosis.

Drs. Martin F. Engman and W. H. Mook, St. Louis, showed cases of onychia; scleroderma; multiple benign cystic epithelioma; mycosis fungoides; lymphangioma circumscriptum; xanthoma diabeticorum; mycosis fungoides; acne excoriativa; xanthoma planum; and a large papillomatous nevus treated with carbon dioxid snow.

On motion of Dr. William T. Cortlett, Cleveland, a unanimous vote of thanks was extended to the members of the local committee for collecting this valuable clinical material and for the energy shown by the officers of the Section, which had helped to bring this meeting to such a successful close.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Tuesday, June 7—Morning

The Chairman, Dr. David L. Edsall, Philadelphia, called the meeting to order at 2:30 p. m., in the Delmar Avenue Congregational Church.

Dr. Edsall delivered the Chairman's address, entitled "Some Reforms Accomplished and Others Needed in Pharmacotherapy." No discussion.

Prof. Joseph P. Remington, Philadelphia, delivered the address of Delegates of the American Pharmaceutical Association.

Dr. C. S. N. Hallberg, of Chicago, made a motion that the members of the American Pharmaceutical Association who were delegates and who might not be pharmaceutical members of the American Medical Association might have the privilege of the floor and be invited to participate with the Section of Pharmacology and Therapeutics in the discussion. Seconded and carried.

Reports of Standing Committees were then called for.

The Secretary, Dr. Murray G. Motter, Washington, read the report of the Executive Committee on Habit-Forming Drugs. The report was on motion transmitted to the House of Delegates with the recommendation that it be referred to the Committee on Legislation. [The House referred it to the new Council on Health and Public Instruction. The Journal, June 18, page 2077. The text of the report appears in The Journal, June 18, page 2072.]

Dr. Motter announced that the report of the Committee on United States Pharmacopeia had been published in the reports presented to the House of Delegates. [It appears in The Journal, June 18, page 2088.]

Dr. R. A. Hatcher, New York, Chairman of the Committee, submitted the report of the Committee on National Formulary. Discussed by Drs. F. E. Stewart, Philadelphia; C. S. N. Hallberg, Chicago; A. Jacobi, New York.

On motion, action on the report was deferred until Dr. Hallberg read his paper.

Dr. Edsall, the Chairman, appointed the following substitutes to act as Executive Committee: Drs. R. A. Hatcher, New York; H. M. Whelpley, St. Louis, and W. C. Wescott, Atlantic City, N. J.

Dr. F. E. Stewart, Philadelphia, made a motion, which was seconded and carried, that papers whose authors were absent should be referred to the Executive Committee for recommendation as to whether or not they should be read to the Section.

Dr. C. S. N. Hallberg, Chicago, read a paper entitled "The National Formulary from the Pharmaceutical Standpoint."

Dr. F. E. Stewart, Philadelphia, made a motion that the report of the Committee on National Formulary be adopted and the committee continued, provided the American Pharmaceutical Association Council having control of the Revision of the National Formulary were willing to abide by the rules of the Council on Pharmacy and Chemistry of the American Medical Association. Discussed by Drs. A. S. Loevenhart, Madison, Wis.; A. Jacobi, New York; A. T. Livingston, Jamestown, N. Y.; C. S. N. Hallberg, Chicago; R. A. Hatcher, New York.

A motion by Dr. A. Jacobi, that the report of the committee be accepted and the committee discharged was carried.

The paper of Mr. M. I. Wilbert, Washington, D. C., on "A Forecast of the U. S. P. IX.," was read by Dr. M. G. Motter, Washington, on recommendation of the Executive Committee. Discussed by Drs. A. S. Loevenhart, Madison, Wis.; C. S. N. Hallberg, Chicago, and F. E. Stewart, Philadelphia.

Wednesday, June 8—Morning

The Section held a joint meeting with the Section on Practice of Medicine at the Third Baptist Church.

The Chairman of the Section on Practice of Medicine, Dr. George Blumer, New Haven, Conn., called the meeting to order at 9:30 a. m.

The following four papers were read and discussed as a Symposium on the Circulatory Disorders in Acute Infectious Diseases:

Dr. W. G. MacCallum, New York: "Pathologic Physiology of the Circulatory Failure of Acute Infectious Disease."

Dr. George Dock, New Orleans: "Treatment of the Circulatory Failure of Acute Infectious Diseases with Drugs Other than Alcohol."

Dr. Joseph L. Miller, Chicago: "The Physiologic Action, Uses and Abuses of Alcohol in the Circulatory Disturbances of Acute Infection."

Dr. A. N. Richards, Chicago: "The Action of Alcohol on the Mammalian Heart."

These four papers were discussed by Drs. A. S. Loevenhart, Madison, Wis.; R. C. Cabot, Boston, DeLancey Rochester, Buffalo, N. Y.; J. A. Lichty, Pittsburg; Haven Emerson, New York; G. C. Smith, Boston; A. T. Livingston, Jamestown, N. Y.; G. W. McCaskey, Fort Wayne, Ind.; C. F. Hoover, Cleveland; A. Jacobi, New York; Lawrence Litchfield, Pittsburg; Frank A. Jones, Memphis, Tenn.; B. C. Walt, Little Rock, Ark.; George Dock, New Orleans, and J. L. Miller, Chicago.

This ended the joint meeting.

Dr. Lewis A. Conner, New York, read a paper entitled, "The Visceral Anesthesias of Tabes Dorsalis in Relation to the Diagnosis of Acute Inflammatory Conditions in the Abdomen, with an Illustrative Case." Discussed by Drs. L. Litchfield, *Pittsburg*; J. H. Musser, *Philadelphia*; C. F. Hoover, *Cleveland* and Lewis A. Conner.

Wednesday, June 8—Afternoon

The Section held a joint meeting with the Section on Pathology and Physiology for the consideration of a Symposium on Recent Advances in the Knowledge of Diabetes and its Treatment.

For the minutes see the report of the Section on Pathology and Physiology, which appear on the following page.

Thursday, June 9—Morning

Dr. R. A. Hatcher, New York, presented the report of the Nominating Committee recommending for election the following; Chairman, Dr. Lawrence Litchfield, Pittsburg, Pa.; Vice-Chairman; Dr. George B. Wallace, New York; Secretary, Mr. M. I. Wilbert, Washington, D. C.; Delegate, Dr. Reid Hunt, Washington, D. C.

The report of the Nominating Committee was accepted and the Secretary, Dr. M. G. Motter, was authorized to cast the ballot for the election of the nominees.

Dr. C. S. N. Hallberg, Delegate, reported that he had presented the names of William H. Glover, Lawrence, Mass., and Leonard A. Seltzer, Detroit, for pharmaceutical members of this Section and that both applications had been acted on favorably.

In accordance with instructions, Dr. Hallberg said that he had presented the Report of the Executive Committee to which had been referred the Habit-forming Drugs Legislation and that this report was referred as recommended to the Committee on National Legislation of the A. M. A. He said that when the report of the Reference Committee on National Legislation was made it recommended that the A. M. A. recommend to the states that the state drug laws be made or changed to conform with the federal Food and Drugs Act. Dr. Hallberg, feeling that it was a very serious thing for the Association to go on record as favoring the patterning of the state laws after the federal act, stated that the federal act was a compromise measure which permitted any kind of drugs to be sold, provided that the ingredients were named on the label. At the suggestion of President Welch this recommendation had been amended so that it provided that the Association recommended that drugs must conform with the requirements of the United Pharmacopeia and the National Formulary.

It was moved and carried that the report of the Delegate be accepted.

The following papers were read as a Symposium on Extrapharmacal Methods:

The paper prepared by Dr. C. S. Potts, Philadelphia, on "The Practical Uses of Electricity in Medicine," was read by the Secretary, in conformity with a motion made following the recommendation of the Executive Committee. Discussed by Drs. G. Betton Massey, Philadelphia; David Paulson, Hinsdale, Ill.; A. T. Livingston, Jamestown, N. Y.; H. M. Whelpley, St. Louis, and Haven Emerson, New York.

The paper of Dr. Thomas McCrae, Baltimore, "The Principles of Hydrotherapy," was read by the Secretary. Discussed by Drs. David Paulson, Hinsdale, Ill., and H. M. Whelpley, St. Louis.

On recommendation of the Executive Committee, it was moved, seconded and carried that a paper by Dr. Alfred T. Livingstone, Jamestown, N. Y., not appearing on the program, be read. Dr. A. T. Livingston then read his paper on "The Physiologic Test and Standardization of Ergot." Discussed by Drs. Haven Emerson, New York, and A. T. Livingston, Jamestown, N. Y.

Thursday, June 9—Afternoon

The meeting was called to order in the Delmar Avenue Congregational Church by Dr. Lawrence Litchfield, Pittsburg, Pa., *the Chairman-Elect*, at 2:09 p. m.

Dr. R. A. Hatcher, New York, read a paper written by himself and Dr. Harold C. Bailey, New York, on "The Clinical Use of Strophanthus." Discussed by Drs. J. L. Miller, Chicago; M. Rosewater, Cleveland; L. Litchfield, Pittsburg; H. C. Bailey, New York, and R. A. Hatcher, New York.

Dr. Haven Emerson, New York, read a paper on "Blood Pressure in Tuberculosis." Discussed by Drs. M. Rosewater, Cleveland; J. L. Miller, Chicago; J. M. Bessey, Toledo, Ohio, and Haven Emerson, New York.

In the absence of Dr. James M. Anders, Philadelphia, the Secretary, Dr. M. G. Motter, Washington, D. C., read Dr. Anders' paper on "Vaccines in Typhoid Fever." No discussion.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Tuesday, June 7—Afternoon

The meeting was called to order at 2:10 p. m., in the Lecture Hall of Y. M. C. A. Building, by the Chairman, Dr. H. Gideon Wells, Chicago.

Applications for associate membership in the Section having been received from Professors P. B. Hawk, University of Illinois; A. J. Carlson, University of Chicago; Leo Loeb, University of Pennsylvania; and Graham Lusk, Cornell University Medical School, their names were recommended for presentation to the House of Delegates.

Dr. Carl J. Wiggers, Ann Arbor, Mich., read a paper on "The Prognostic Significance of Pulse-Pressure Changes During Hemorrhage." Discussed by Dr. Yandell Henderson, New Haven, Conn.

Dr. Arthur D. Hirschfelder, Baltimore, read a paper on "The Functional Disturbances in Paroxysmal Tachycardia." Discussed by Drs. S. A. Matthews, Chicago, and A. D. Hirschfelder, Baltimore.

Dr. Robert B. Gibson, Columbia, Mo., read a paper on "The Action of Adrenalin on the Mammalian Heart." Discussed by Drs. C. J. Wiggers, Ann Arbor, Mich.; S. A. Matthews, Chicago; and R. B. Gibson, Columbia, Mo.

Dr. Clyde Brooks, Chicago, read a paper on "The Action of Alcohol on the Normal, Intact, Unanesthetized Animal." Discussed by Drs. Yandell Henderson, New Haven, Conn.; Ida H. Hyde, Lawrence, Kan.; and Clyde Brooks, Chicago.

Dr. C. C. Guthrie, Pittsburg, Pa., read a paper on "Survival of Engrafted Blood-Vessels." No discussion.

Ida H. Hyde, Lawrence, Kan., read a paper on "The Inhibitory Effects of Magnesium Sulphate, and the Nature of the Impulses in the Phrenic Nerves." Discussed by Dr. Louise G. Robinovitch, New York City.

Dr. Angus McLean, Detroit, Mich., read a paper on "Gangrene Following Carbon Monoxid (Coal-Gas) Poisoning." Discussed by Dr. H. G. Wells, Chicago.

The Chairman appointed the following as members of the Nominating Committee: Drs. A. D. Hirschfelder, Baltimore; Henry Albert, Iowa City, Iowa; and E. P. Lyon, St. Louis.

Wednesday, June 8—Morning

Dr. A. S. Warthin, Ann Arbor, Mich., read a paper on "The Reaction of the Hemolymph Nodes to Infection and Intoxication." No discussion.

Dr. Henry Albert, Iowa City, Iowa, read a paper on "Diffuse Hypertrophy of the Mammary Glands of the Female." Discussed by Drs. A. S. Warthin, Ann Arbor, Mich.; James J. Terrill, Galveston, Tex.; Greer Baughman, Richmond, Va.; and Henry Albert, Iowa City, Iowa.

Dr. Arthur E. Hertzler, Kansas City, Mo., read a paper on "The Pathogenesis of Cancer." No discussion.

Dr. Louise G. Robinovitch, New York, read a paper on "Electric Anesthesia and Electric Resuscitation After Heart-Failure Under Chloroform or Electrocution." No discussion.

Drs. H. E. Robertson and A. J. Chesley, Minneapolis, presented a paper on "Pathology and Bacteriology of Anterior Poliomyelitis," which was read by Dr. Robertson. Discussed by Drs. W. H. Welch, Baltimore; and H. E. Robertson, Minneapolis.

Wednesday, June 8—Afternoon

This was a joint meeting with the Section on Pharmacology and Therapeutics.

The following five papers were read and discussed as a Symposium on Recent Advances in Knowledge of Diabetes and Its Treatment:

Dr. Graham Lusk, New York, "Metabolism in Diabetes."

Dr. J. J. R. MacLeod, Cleveland, "Various Forms of Experimental Diabetes and Their Significance for Diabetes Mellitus."

Dr. Joseph H. Pratt, Boston, "The Relation of the Pancreas *to Diabetes.*"

Dr. R. T. Woodyatt, Chicago, "The Action of Glycol Aldehyd and Glycerin in Diabetes, and the Nature of Antiketogenesis."

Dr. George B. Wallace, New York, "Therapy and Dietetics of Diabetes."

These five papers were discussed by Drs. J. M. Allen, Liberty, Mo.; George C. Smith, Boston; J. A. Lichty, Pittsburg, Pa.; J. P. Matthews, Carlinville, Ill.; H. A. Freund, Detroit; Graham Lusk, New York; J. J. R. MacLeod, Cleveland; and R. T. Woodyatt, Chicago.

Thursday, June 9—Morning

The report of the Nominating Committee recommended the election of the following officers: Chairman, Dr. Yandell Henderson, New Haven, Conn.; Secretary, Dr. Leo Loeb, Philadelphia; Delegate, Dr. Walter L. Bierring, Iowa City, Iowa; Alternate, Dr. M. J. Rosenau, Boston. The report of the Nominating Committee was accepted and the Secretary was instructed to cast a ballot for the election of the nominees.

Dr. J. F. Hultgen, Chicago, read a paper on "Influence of Alcohol on the Kidneys." Discussed by Drs. A. S. Warthin, Ann Arbor, Mich.; H. G. Wells, Chicago; Daniel M. Eisendrath, Chicago; and J. F. Hultgen, Chicago.

Drs. Daniel N. Eisendrath and David C. Strauss, Chicago, presented a paper on "Effects of Compression of Its Vessels on the Parenchyma of the Kidney," which was read by Dr. Strauss. Discussed by Drs. V. C. Lespinasse, Chicago; D. N. Eisendrath, Chicago; Yandell Henderson, New Haven, Conn.; H. G. Wells, Chicago; and D. C. Strauss, Chicago.

Dr. Winfield S. Hall, Chicago, read a paper on "The Influence of Diet on the Chyle." Discussed by Drs. J. F. Hultgen, Chicago; and W. S. Hall, Chicago.

Dr. S. A. Matthews, Chicago, read a paper on "One of the Functions of the Duodenum." Discussed by Drs. I. H. Hyde, Lawrence, Kan.; W. C. McCarty, Rochester, Minn.; J. F. Hultgen, Chicago; W. G. McCallum, New York; J. T. Pilcher, Rochester, Minn.; and S. A. Matthews, Chicago.

Dr. William Carpenter McCarty, Rochester, Minn., read a paper on "Classification of Appendicitis, and the Relation of Chronic Appendicitis to Obliteration and Carcinoma (A Study of 5,000 Specimens Removed at Operation)." Discussed by Drs. J. F. Hultgen, Chicago; H. G. Wells, Chicago; and W. C. McCarty, Rochester, Minn.

Thursday, June 9—Afternoon

The following five papers were read and discussed as a Symposium on the Progress in the Problems of Cancer:

Dr. Leo Loeb, Philadelphia, "Recent Progress and Present Status of Experimental Research in Cancer."

Dr. E. E. Tyzzer, Boston, "The Relation of Heredity to Cancer."

Dr. Richard Weil, New York, "The Biochemical Investigations of Cancer, and Its Diagnostic Applications."

Dr. F. B. Mallory, Boston, "Recent Progress in the Microscopic Anatomy and Differentiation of Cancer."

Dr. J. C. Bloodgood, Baltimore, "Recent Progress in Surgical Treatment of Malignant Growths."

These five papers were discussed by Drs. Louis B. Wilson, Rochester, Minn.; F. B. Mallory, Boston; and H. Gideon Wells, Chicago.

THE ST. LOUIS REGISTRATION

List of Members Who Registered at the St. Louis Session, June, 1910

The total registration at the St. Louis session was 4,084, an increase of 812 over last year's registration at Atlantic City. This is the third session in point of size.

In addition to the names of members given below, a number registered whose names are not given. These have not yet completed their membership, many having been subscribers only and some of them claiming membership without making application, as is required by the Constitution and By-Laws.

Below are given two summaries, one by sections and one by states.

REGISTRATION BY SECTIONS

Practice of Medicine	1,389
Obstetrics and Diseases of Women	296
Surgery	1,124
Ophthalmology	275
Laryngology and Otology	167
Nervous and Mental Diseases	110
Preventive Medicine and Public Health	95
Stomatology	55
Diseases of Children	157
Dermatology	84
Pharmacology and Therapeutics	42
Pathology and Physiology	66
Registered without specifying any one section	105

REGISTRATION BY STATES

Alabama	22	Nebraska	37
Arizona	2	New Hampshire	3
Arkansas	97	New Jersey	20
California	38	New Mexico	6
Canal Zone	3	New York	149
Colorado	38	North Carolina	11
Connecticut	11	North Dakota	3
District of Columbia	25	Ohio	169
Florida	1	Oklahoma	68
Georgia	11	Oregon	9
Idaho	2	Pennsylvania	133
Illinois	828	Rhode Island	3
Indiana	197	South Carolina	11
Iowa	147	South Dakota	12
Kansas	102	Tennessee	96
Kentucky	99	Texas	79
Louisiana	35	Utah	7
Maine	2	Vermont	1
Maryland	33	Virginia	22
Massachusetts	49	Washington	10
Michigan	84	West Virginia	35
Minnesota	92	Wisconsin	52
Mississippi	15	Wyoming	1
Missouri	1,086	Foreign (including Canada)	10
Montana	8		

Practice of Medicine

Aaron, Charles D., Detroit.
Abbott, Clarence, Otwell, Ind.
Abbott, Edward H., Elgin, Ill.
Adair, T. W., Archie, Mo.
Adams, E. M., Gridley, Ill.
Adams, J. W., Carrollton, Ill.
Adles, M., Du Quoin, Ill.
Alderman, Mason C., Sedalia, Mo.
Alford, R. Lee, Vandalia, Mo.
Allee, Warren L., Eldon, Mo.
Allee, W. S., Olean, Mo.
Allen, F. W., Callao, Mo.
Allen, L. M., Philadelphia.
Allen, Wesley, West Newton, Ind.
Allyn, Walter H., Waverly, Ill.
Altham Arthur G., Metz, Mo.
Althans, Carl, St. Louis, Mo.
Alvis, E. C., Kell, Ill.
Amerland, J. H., St. Louis.
Amerson, S. S. Sullivan, Ky.
Ames, H. B., Burlington, Okla.
Anderson, Elmer E., Garland, Kan.
Anderson, J. C., Granger, Texas.
Anderson, J. Howard, Marytown, W. Va.
Anderson, R. B., Sherman Texas.
Anderson, William Edward Farmville, Va.
Andrews, John, Grant City, Mo.
Andrews, J. P., Marionville, Mo.
Andrews, Jr., Neil, Oshkosh, Wis.
Applewhite, Lee D., East St. Louis, Ill.
Arbuthnot, Thomas S., Pittsburgh, Pa.
Armstrong, C. L., Webster Grove, Mo.
Arnold, Horace D., Boston.
Arthur, Sylvester Irvin, Patoka, Ind.
Atkins, W. A., Rogersville, Mo.
Atkisson, Jas. A., Morehouse, Mo.
Aufderheide, Wm. D., St. Louis.
Austin, R. E., San Diego, Cal.
Austin, M. B., Brunswick, Mo.
Austin, Sedgwick E., Auburn, N. Y.
Baar Gustav, Portland, Ore.
Baird, R. W., Dallas, Texas.
Baker, J. H. P., Salisbury, Mo.
Balcke, W. A., Cropsey, Ill.
Baldwin, Paul, Kennett, Mo.
Ball, Otho F., St. Louis.
Bankhead, J. E., Clarksvile, Mo.
Barger, J. Nelson, Albany, Mo.
Barnes, Sr., A. S., St. Louis.
Barnes, P. C., St. Louis.
Barnhart, D. A., Huntsville, Mo.
Barr, Clarence M., St. Louis.
Barringer, B. M., Emden, Ill.
Bartlett, Ezekiel M., Clarksville, Mo.
Baskett, J. N., Hannibal, Mo.
Bass, C. C., New Orleans.
Bassett, Sam T., St. Louis.
Bauer, Chas. E., St. Louis.
Baumgarten, Walter, St. Louis.
Bate, R. Alexander, Louisville, Ky.
Battle, J. T. J., Greensboro, N. C.
Baysinger, S. L., Rolla, Mo.
Beall, K. H., Fort Worth, Tex.
Beard, I. J., Godfrey, Ill.
Beatie, William R., Marshfield, Mo.
Beavers, C. E., Barry, Ill.
Beck, Harvey G., Baltimore, Md.
Beckner, Ernest J., Selden, Kans.
Beeson, John P., Southwest City, Mo.
Behrens, Louis H., St. Louis.
Bell, Alfred, Brooklyn, N. Y.
Bell, John M., St. Joseph, Mo.
Bell, Seaborn B., Ozark, Ala.
Bell, William H., Decatur, Ill.
Benedict, A. L., Buffalo, N. Y.
Benker, O. H., St. Louis, Mo.
Bennett, Basil T., Trenton, Tenn.
Bennett, F. W., St. Louis, Mo.
Benson, B. G. St. Louis, Mo.
Berghausen, Oscar, Cincinnati.
Berrey, Isaac Somers, Balchtown, Ill.
Bessey, J. M., Toledo, Ohio.
Beveridge, J. W., Oregon, Ill.
Bewig, H. N., St. Louis.
Bierring, Walter L., Iowa City, Ia.
Biggs, Orvis E., Hot Springs, Ark.
Biggs, Vincent A., Martin, Tenn.
Billings, Frank, Chicago.
Bing, Elbert A., Altamont, Ill.
Birkofer, W. J., Gothenburg, Neb.
Bishop, A. M., Chicago.
Black, G. C., Table Grove, Ill.
Blackburn, Wm. R., Breeds, Ill.
Blackstone, G. R., Macomb, Ill.
Blake, W. H., Sheffield, Ala.
Blakely, James Thomas, Mt. Erie, Ill.
Blakey, Thomas W., Hopkinsville, Ky.
Blattner, Fredk. O., St. Louis.
Bland, Curtis, Greensburg, Ind.
Bland, Warren W., Vandalia, Mo.
Blankenhorn, H., Orrville, Ohio.
Blanton, Marvin A., Union City, Tenn.
Bley, George, Jr., Beardstown, Ill.
Blim, Charles, Crete, Ill.
Blumer, George, New Haven, Conn.
Blythe, Vernon, Paducah, Ky.
Bobb, C. S., Mitchell, S. Dak.
Boggess, Walter F., Louisville, Ky.
Bogle, Herman H., Pittsburg, Kan.
Bohan, Peter Thomas, Kansas City, Mo.
Bohannan, H. R., Jerseyville, Ill.
Bohling, C., Sedalia, Mo.
Boisliniere, Louis C., St. Louis.
Boles, Dallas S., Herrin, Ill.
Bond, L. L., Denison, Iowa.
Bond, S. B., Baltimore.
Bonham, Vaughan Q., Fayette, Mo.
Boogher, J. Leland, St. Louis.
Bostick, Will, St. Louis.
Bosworth, D. D., Knoxville, Tenn.
Bottom, E. H., East St. Louis, Ill.
Bourland, I. N., Equality, Ill.
Bourland, O. M., Van Buren, Ark.
Bowcock, C. M., Springfield, Ill.
Bowers, H. C., Scircleville, Ind.
Bowling, John W., Shawneetown, Ill.
Boyd, F. Robert, St. Louis.
Boyd, H. B., Cambridge City, Ind.
Boyd, R. L., Pembroke, Ky.
Boyers, James S., Decatur, Ind.
Bradford, Kenneth, Staunton, Va.
Bradley, M. M., Chatham, Ill.
Bradley, Robert H., Marshall, Ill.
Bradley, Will P., Windsor, Mo.
Bradshaw, John T., Shawnee, Okla.
Bradsher, R. Edward, Marmaduke, Ark.
Brady, Charles, Parsons, Kan.
Brainerd, B. F., Martin City, Mo.
Brandenburger, Louis A., St. Louis.
Brannan, Charles S., Albion, Ill.
Breeding, W. J., Ravenscroft, Tenn.
Bressler, A. H., Nickerson, Kan.
Breuer, R. E., Newburg, Mo.
Brewer, E. M., Rantoul, Ill.
Breuer, William Hayes, St. James, Mo.
Bradly, Robert C., Peoria, Ill.
Brain, C. F., Bellmont, Ill.
Brian, J. R., St. Francisville, Ill.
Bridges, J. R., Kahoka, Mo.
Brittin, Albert L., Athens, Ill.
Brockway, Frank, Oshkosh, Wis.
Brookes, H. S., St. Louis.
Brookhart, H. H., Scammon, Kan.
Brook, Frederick C., St. Louis.
Broun, Harry R., Daykin, Neb.
Brown, Allen C., Moselle, Mo.
Brown, Charles H., Fair Play, Mo.
Brown, Everett J., Decatur, Ill.
Brown, G. F., Sherman, Tex.
Brown, George S., Edina, Mo.
Brown, J. C., Lewistown, Mo.
Brown, Orville Harry, St. Louis.
Brown, Tinsley, Hamilton, Mo.
Broyles, F. H., Bethany, Mo.
Brudi, G. G., New Haven, Ind.
Brumwall, J. D., Salisbury, Mo.
Brundage, N. E., Delphi, Ohio.
Brush, Frederic, New York.
Bruton, J. W., Ozark, Mo.
Bruton, Tyrrel S., Seymour, Mo.
Bryan, E. M., Fulton, Mo.
Bryan, Joseph Lyman, Xenia, Ill.
Bryan, R. Shepard, St. Louis.
Bryant, J. B., Lawrenceville, Ill.
Buck, E. M., Montrose, Iowa.
Buck, G. M., Burrows, Ind.
Bucklin, G. W., Muncie, Ind.
Buettner, John J., Syracuse, N. Y.
Burke, C. O., Atlanta, Ill.
Bushart, R. L., Fulton, Ky.
Butler, H. T., Union City, Tenn.
Butler, James H., Hartsburg, Ill.
Buxton, W. E., West Salem, Ill.
Cables, Henry A., E. St. Louis, Ill.
Cabot, Richard C., Boston.
Caldwell, Chas. W., Chelsea, Okla.
Calvert, W. J., Dallas, Tex.
Cameron, William H., Pittsburg, Pa.
Camp, F. K., Oklahoma City, Okla.
Campbell, Oliver H., St. Louis.
Cannady, E. W., E. St. Louis, Ill.
Cannon, Geo. Emmett, Hope, Ark.
Capel, A. B., Shawneetown, Ill.
Capps, Joseph A., Chicago.
Carbaugh, Eugene, Kansas City, Mo.
Carey, J. W., Whitesboro, Tex.
Carman, R. D., St. Louis.
Carriere, Theodore L., St. Louis.
Carson, Frank D., Benton, Ohio.
Carson, L. O., New Augusta, Ind.
Carson, S. L., Lincoln City, Ind.
Carter, A. R., Murphysboro, Ill.
Carter, Howard, Webster Groves, Mo.
Carthrae, Lewis, Corder, Mo.
Caruthers, C. K., Pine Bluff, Ark.
Casburn, Alfred Leslie, Ferris, Ill.
Cassel, Herman F., St. Louis.
Caton, J. H., Breckenridge, Tex.
Causey, G. A., Swifton, Ark.
Cave, E. S., Mexico, Mo.
Cave, J. W., Wichita, Kan.
Chambers, H. L., Lawrence, Kan.
Chandler, J. J., Lutesville, Mo.
Chapin, H. A., White Hall, Ill.
Chapman, A. W., Charleston, Mo.
Chapman, F. A., Sigel, Ill.
Chapman, R. R., Bridgewater, Iowa.
Chapman, S. T., Halls, Tenn.
Chapman, William Day, Silvis, Ill.
Chapman, W. Earle, Sheboygan, Mich.
Chappell, Ralph S., Indianapolis.
Charles, Etta, Summitville, Ind.
Chastain, C. H., Weston, Mo.
Chastain, E. N., Butler, Mo.
Child, Scott P., Kansas City Mo.
Chilgren, G. A., Burlington, Iowa.
Chilton, J. A., Van Buren, Mo.
Chittum, J. D., Sorento, Ill.
Christian, Chas. H., New Bloomfield, Mo.
Christofferson, P. J., Waupaca, Wis.
Claiborn, E. G., Decaturville, Mo.
Clark, John Wheeler, Carterville, Mo.
Clark, O. P., Russell, Ky.
Clark, W. A., Jefferson City, Mo.
Clark, William J., Maysville, Mo.
Clarke, George W., Roseville, Ill.
Clarke, H. L., La Cygne, Kan.
Claytor, Thomas A., Washington, D. C.
Cleland, James, Jr., Detroit.
Cleland, Jas. S., Swanwick, Ill.
Clendening, Logan, Kansas City, Mo.
Cluthe, Wm., Tell City, Ind.
Cochran, Athol, Iuka, Kan.
Cochran, T. U., Trenton, Tenn.
Cohenour, V. J., Joliet, Ill.
Coil, Paul E., Mexico, Mo.
Coleman, Nathaniel R., Columbus, Ohio.
Coleman, Thomas D., Augusta, Ga.
Collins, J. S., Carlinville, Ill.
Condon, A. S., Ogden, Utah.
Congdon, William O., Cuba, N. Y.
Conner, Frank Howard, Nevada, Ia.
Conner, Lewis A., New York.
Connett, James Eddington, Lawrenceville, Ill.
Conover, C. C., Kansas City, Mo.
Cook, Jerome E., St. Louis.
Cook, J. H., Terre Haute, Ind.
Cooley, Halsey E., Angelica, N. Y.
Coombs, J. W., Camden, Ohio.
Coons, Jacob Jones, Columbus, O.
Corley, H. N., St. Paul, Mo.
Cottral, George H., Hanover, Ill.
Covington, E. D., Hardin, Ky.
Cox, Leo, Springfield, Mo.
Craig, T. B. M., Nevada, Mo.
Crandall, George Clinton, St. Louis.

Crane, A. W., Kalamazoo, Mich.
Crawford, R. O., Eldorado Springs, Mo.
Crockett, James A., Stanberry, Mo.
Crockett, Sidney S., Nashville, Tenn.
Croftan, A. C., Chicago.
Cross, John Grosvenor, Minneapolis.
Crosthwaite, Geo. W., Florence, Tenn.
Croston, G. C., Sapulpa, Okla.
Crouch, H. T., Bardwell, Ky.
Crow, Oliver Lee, Assumption, Ill.
Cruse, Carl V., Iola, Ill.
Culp, A. H., Beggs, Okla.
Cummings, Harry J., St. Louis.
Custer, D. D., Philadelphia.
Daland, Judson, Philadelphia.
Dale, Chas. F., Lexington, Ky.
Dalgleish, G. D., Rockville, Mo.
Daniel, Sam G., Marshall, Ark.
Daniells, Ralph P., Toledo, Ohio.
Daniels, E. O., La Fontaine, Ind.
Davis, Albert W., Kansas City, Mo.
Davis, Homer W., Alton, Ill.
Davis, James D., Louisiana, Mo.
Davis, James H., Carlinville, Ill.
Davis, Louis H., St. Louis.
Davis, Thomas D., Pittsburg, Pa.
Davis, Wheeler, St. Louis.
Davis, W. V., Booneville, Miss.
Davidson, Albert A., Augusta, Ga.
Davidson, W. E., Kingston, Ill.
Dawson, John L., Charleston, S. C.
Dawson, N. B., Sterling, Ohio.
Deaderick, William H., Helena, Ark.
Deal, John, Riverton, Ill.
Denby, J. P., Carlinville, Ill.
DeVilbiss, Frank, Eugene, Mo.
Dew, W. A., Belleville, Ill.
DeWitt, J. P., Canton, Ohio.
Dice, Henry F., Ridge Farm, Ill.
Dickerson, G. D., Conway, Ark.
Dicks, T. A., Broadlands, Ill.
Diehl, Christian Herman, St. Louis.
Dielman, F. C., Fulton, Ind.
Dierker, Frank H., West Point, Ia.
Dierking, A. W., Oolitic, Ind.
Dillingham, Wm. Roy, Morland, Kan.
Dinges, H. A., Red Beed, Ill.
Dinsmore, Walter H., Kramer, Ind.
Dixon, Chas. H., Holliday, Mo.
Dixon, William Allen, Decatur, Ill.
Dixon, W. C., Nashville, Tenn.
Dock, George, New Orleans.
Doerr, John E., Mt. Vernon, Ind.
Donaldson, Jno. B., Canonsburg, Pa.
Donnell, R. E., De Soto, Mo.
Dorris, Thos. B., Grapevine, Tex.
Doty, E. A., Oxford, Iowa.
Douglas, James T., Ferguson, Mo.
Dow, Wm. S., Indianapolis.
Drennen, C. T., Hot Springs, Ark.
Dreyfus, J. W., Louisiana, Mo.
Driskell, C. R., Farmersville, Ill.
Drummond, R. M., Russellville, Ark.
Dryden, U. C., Purdin, Mo.
Duane, J. F., Peoria, Ill.
Duchein, C. F., Baton Rouge, La.
Ducy, D. R., Belleville, Ill.
Duffield, Henry T., Pittsfield, Ill.
DuFour, Walter G., Chenoa, Ill.
Dugan, Thomas J., Indianapolis.
Duncan, J. M., Pawnee, Ill.
Dunham, John Dudley, Columbus, O.
Dunigan, Jas. P., Sullivan, Mo.
Dupree, M. W., Bethel, Tenn.
Durand, Jay I., Atlantic City, N. J.
Dusenbury, C. T., Monett, Mo.
Dyer, D. P., Sedalia, Mo.
Dyer, John H., Warrenton, Mo.
Eggleston, E. L., Battle Creek, Mich.
Epler, Blanch N., Kalamazoo, Mich.
Eyermann, Edward H., St. Louis.
Eagan, R. E., Springhill, Kan.
Eberspacher, F. J., Pana, Ill.
Edgell, O. K., Eolia, Mo.
Edmonds, O. R., Tina, Mo.
Edwards, A. R., Chicago.
Edwards, F. M., Fairland, Okla.
Einhorn, Max, New York.
Elfrink, B. F., Chenoa, Ill.
Elkins, C. Bryant, Springfield, Mo.
Ellinger, T. J., Philadelphia.
Elliott, Charles A., Chicago.
Elliott, Edward W., Fort Morgan, Colo.
Elliott, John C., Guilford, Ind.
Ellis, Frank B., Garden City, Mo.
Elmer, Warren P., St. Louis.
Elrod, Stephen B., Henryville, Ind.
Emerson, Charles P., Clifton Springs, N. Y.
Enberg, Andrew, McPherson, Kan.
Engelbach, Theodore, Grand Isle, La.
Engelbach, William, St. Louis.
Engelman, Oscar B., St. Louis.
English, J. N., Gillespie, Ill.
Epperly, R. G., Prairie Hill, Mo.
Evans, Charles A., Bluffs, Ill.
Evans, D. J., Galesburg, Ill.
Evans, Edwin E., Columbia, Mo.
Evans, Florence L., East St. Louis, Ill.
Fairbanks, J. R., Amsterdam, N. Y.
Falk, John C., St. Louis.
Farmer, W. S., Cookville, Tenn.
Fessett, Charles Wood, St. Joseph, Mo.
Faucett, J. T., Trenton, Tenn.
Faulk, Lem, Emory, Tex.
Fear, R. C., Gardner, Kan.
Feinstein, Leon A., St. Louis.
Ferriss, J. H., Henrietta, Tex.
Fewel, R. B., Montrose, Mo.
Fiegenbaum, E. W., Edwardsville, Ill.
Fienup, Theo. F., St. Louis.
Fihe, C. C., Cincinnati.
Fildes, V. S., Parkersburg, Ill.
Firson, Charles M., Piggott, Ark.
Fischel, Walter, St. Louis.
Fischel, Washington E., St. Louis.
Fisher, C. R. P., Bound Brook, N. J.
Fittro, E. B., Salem, W. Va.
Fleischaker, Frank W., Louisville, Ky.
Fleming, C. R., Farmington, Mo.
Flentje, Robert, Buffalo, Ill.
Fletcher, F. D., Chatham, Ill.
Fletcher, H. H., Winchester, Ill.
Flint, O. J., Princeton, Ill.
Floyd, R. G., Eureka Springs, Ark.
Fontaine, Bryce W., Memphis, Tenn.
Forbes, D. M., Okmulgee, Okla.
Ford, Charles, Waggoner, Ill.
Ford, Karl Bernard, Wichita, Kan.
Foreman, C. B., Kane, Ill.
Foreman, C. O., Warrenton, Mo.
Forsyth, Robert C., Kirkwood, Mo.
Fortney, F. D., Newburg, W. Va.
Foster, T. W., Butler, Mo.
Foster, W. S., Pittsburg, Pa.
Fountain, J. H., Chapin, Ill.
Foxworthy, Frank W., Indianapolis.
Frantz, D. W., Metcalf, Ill.
Frazer, Thompson, Asheville, N. C.
Freeman, Elmer B., Baltimore, Md.
Freeman, Edward D., Osgood, Ind.
Freund, Hugo A., Detroit, Mich.
Frick, Anders, Chicago.
Friedemann, Paul, Stillwater, Okla.
Friedenwald, Julius, Baltimore.
Fries, William A., St. Louis.
Frizzell, Thomas D., Quanah, Tex.
Fronske, Martin G., St. Louis.
Frost, E. L., Buffalo, N. Y.
Fulbright, J. H., Springfield, Mo.
Fuller, J. A., Lane, Kan.
Fulton, Arthur Leonard, St. Louis.
Fulton, Frank H., Plattsburg, Mo.
Funk, David S., Harrisburg, Pa.
Gaertner, C. Walter, St. Louis.
Gailey, Darwin S., Ashland, Ill.
Gaines, J. R., Musselfork, Mo.
Galbreth, W. H., Rockfield, Ind.
Gallagher, J. C., Valley Park, Mo.
Gapen, Clarke, Madison, Wis.
Gaston, J. Irwin, Kingston, Okla.
Geier, Otto P., Cincinnati.
Geitz, Henry A., St. Louis.
G[illegible]hard, Samuel P., Philadelphia.
Gibson, A. Gilden, Morrisonville, Ill.
Gibson, Charles M., Franklin, Kan.
Gibson, Elijah T., Louisville, Ill.
Gibson, James P., Stewartsville, Ind.
Gibson, O. N., Eldorado, Ill.
Griffin, H. Z., Rochester, Minn.
Gilbert, A. J., Hillsboro, Tex.
Gillespie, J. F., Greencastle, Ind.
Gilleatt, O. E., Allendale, Ill.
Glahn, C. P., Palmyra, Mo.
Glascock, E. N., Mill Shoals, Ill.
Glasgow, Edward A., Mulberry Grove, Ill.
Gleaves, O. G., St. Joseph, Mo.
Goar, C. S., Indianapolis.
Godfrey, George B., St. Louis.
Goebel, Arthur, St. Louis.
Goins, George W., Breckenridge, Mo.
Gooch, W. S., Mapleton, Kan.
Good, Clarence A., St. Joseph, Mo.
Goodier, Robert H., Hannibal, Mo.
Gordon, R. E., El Paso, Ill.
Gordon, W. P., Carlyle, Ill.
Gore, Charles P., Lawrenceville, Ill.
Gossow, A. A., St. Charles, Mo.
Gourley, W. W., Fulton, Ky.
Gove, Herman S., Linn, Mo.
Graber, F. J., Stockport, Iowa.
Grady, N. H., Monette, Ark.
Gray, R. Q., St. Louis.
Gray, S. T., Alfia, Iowa.
Green, D. E., Pleasanton, Kan.
Greensfelder, Harry, St. Louis.
Greer, E. O., St. Louis.
Gregory, Walter E., Dansville, N. Y.
Griffin, R. W., Tiptonville, Tenn.
Griffith, A. Comings, Kansas City, Mo.
Grimmer, C. Fred, Pekin, Ill.
Grosse, L. W., St. Louis.
Groves, J. E., Urichsville, Ohio.
Guhman, M. G., St. Louis.
Guibor, F. E., Maplewood, Mo.
Gunn, A. J., Versailles, Mo.
Guss, William C., Hannibal, Mo.
Guthrie, J. B., New Orleans.
Haass, E. W., Detroit.
Hahn, E., Leetonia, Ohio.
Hale, Jesse W., Greenville, Mo.
Hale, T. H., Fall River, Kan.
Haley, O., Fredericktown, Mo.
Hall, Edward M., Delaware, Ohio.
Hall, Herbert J., Marblehead, Mass.
Hall, Joseph, Westfield, Ill.
Hall, J. N., Denver.
Hall, O. B., Warrensburg, Mo.
Hall, W. Antoine, St. Louis.
Halliburton, W. W., Alton, Ill.
Halsey, Luther M., Williamstown, N. J.
Hamel, E. B., Hastings, Neb.
Hamilton, L. O., Roodhouse, Ill.
Hamilton, Robert L., Richmond, Mo.
Hamilton, William T., Philadelphia.
Hampton, J. R., Clinton, Mo.
Hanford, Frank W., Rockford, Ill.
Hangen, W. M., St. Louis.
Hardy, Joseph, St. Louis.
Hardy, J. J., Poteau, Okla.
Hardy, J. W., Sumner, Mo.
Hardman, W. B., Commerce, Ga.
Hargis, W. A., Hermitage, Tenn.
Harlan, L. O., Madison, Ill.
Harlan, W. E., St. Louis.
Harnisch, H. J., St. Louis.
Harris, B. W., Georgetown, Mo.
Harris, Seale, Mobile, Ala.
Harrison, J. F., Mexico, Mo.
Harrower, Henry R., Chicago.
Hartman, Frank T., Waterloo, Iowa.
Hartmann, J. A., St. Louis.
Hartwell, D. D., Marion, Ill.
Harvey, L. J., Griggsville, Ill.
Harwood, William S., Rensselaer, Mo.
Hastings, J. Barnard, Alton, Ill.
Hatchett, John A., El Reno, Okla.
Hauck, Eugene F., St. Louis.
Hauck, Louis, St. Louis.
Hauck, S. L., Ottumwa, Iowa.
Haw, Uriel P., Benton, Mo.
Hawley, Thomas S., St. Louis.
Hayden, A., Shullsburg, Wis.
Haynes, Lee, Mendota, Mo.
Haynes, W. A., Sabetha, Kan.
Hays, Bernard W., Jackson, Mo.
Hays, T. A., Burns City, Ind.
Hays, Woodward, Albion, Ind.
Hearst, W. L., Cedar Falls, Iowa.
Heely, O. J., St. Libary, Ill.
Hegge, C. A., Austin, Minn.
Held, Henry W., Vincennes, Ind.
Hempelmann, L. H., St. Louis.
Henderson, A. G., Leonardville, Kan.
Henderson, Charles Forest, McCurtain, Okla.
Henderson, E. L., Louisville, Ky.
Hendricks, W. W., Bardolph, Ill.
Henke, A. F., St. Louis.
Henry, W. H., Hamden Junction, O.
Henske, Andrew C., St. Louis.
Henslin, A. E., Leroy, Minn.
Herbert, T. B., Lebanon, Mo.
Herchenroeder, Louis C., St. Louis.
Herr, Henry, Washington, Ind.
Herrick, James B., Chicago.
Heumann, G. W., St. Louis.
Heyer, Chas., St. Louis.
Hick, John C., Eldorado, Ill.
Hickerson, Edwin R., Moberly, Mo.
Hickerson, J. C., Independence, Mo.
Hickerson, J. T., Centralia, Mo.
Hickin, Frank W., Cleveland.
Hicks, Grant S., Tacoma, Wash.
Hiestand, Clement V., Merrimac, Ky.
Higdon, E. E., Allenville, Mo.
Hill, Charles Edgar, E. St. Louis, Ill.
Hill, Emma L., Oswego, Kan.
Hill, I. E., Hannibal, Mo.
Hill, L. B., Seymour, Ind.
Hilliard, T. J., Fairfield, Ill.
Hinch, F. E., Ste. Genevieve, Mo.
Hirsch, J. A., Edwardsville, Ill.
Hirschi, Wm. T., St. Louis.
Hoagland, Charles C., Veblen, S. Dak.
Hockdoerfer, D. Y., St. Louis.
Hoeffer, J. P., St. Louis.
Hoel, George L., Fort Collins, Colo.
Hoffman, Paul M., Tipton, Iowa.
Hogue, John A., Jr., Holcomb, Mo.
Hoiby, Chas. O., Chicago.
Holbrook, R. W., Perkins, Okla.
Holcomb, O. W., St. Paul, Minn.
Holdenried, Wm. E., St. Louis.
Holder, R. E., Columbus, Ind.
Holland, A. B., Wellsville, Ohio.
Holland, Thos. E., Hot Springs, Ark.
Hollis, Luther T., Kansas City, Mo.
Holtgrewe, Frederick W., St. Louis.
Hoover, C. F., Cleveland.
Hopkins, Ross, St. Louis.
Hopkins, W. S., Bolivar, Mo.
Horner, Joseph S., Hot Springs, Ark.
Hornsby, John A., Chicago.
[illegible] nnes, Ill.
[illegible] St. Louis.
[illegible] Ill.
House, Charles F., Hastings, Okla.
House, Charles F., Painesville, O.
Howard, Wm. N., Cape Girardeau, Mo.
Howell, Dumont D., Nowata, Okla.
Hoy, B. F., Syracuse, Ind.
Hubly, Charles C., New Windsor, Ill.
Hudson, Thos. F., Luxora, Ark.
Hughes, G. W., Armstrong, Ill.
Hughes, H. I., Hardin, Ky.
Hughson, F. L., Centralia, Okla.
Hulen, J. C., Centralia, Mo.
Hume, Charles R., Anadarko, Okla.
Hume, E. L., Bourbon, Mo.
Hurst, Jas. A., Pennington Gap, Va.
Hurst, S. T., Greenview, Ill.
Hutton, W. S., Fornfelt, Mo.
Ilg, Theodore, St. Louis.
Italson, Abe, St. Louis.
Irons, Ernest E., Chicago.
Isbell, John, Washington, Mo.
Jack, Cecil M., Decatur, Ill.
Jacobs, Benjamin, Kansas City, Mo.
Jacobson, Jacob, St. Louis.
Jackson, J. B., Hopkinsville, Ky.
Jackson, O. H., Meadville, Pa.
Jackson, T. J., St. Charles, Mo.
Jackson, W. Z., Arlington, Ky.
James, Edwin F., Springfield, Mo.
James, J. M., Henning, Ill.
James, Samuel C., Kansas City, Mo.
Jennings, Robert J., Windsor, Mo.
Jensen, N. N., Florissant, Mo.
Jester, Homer B., Corsicana, Tex.
Jeurink, J. Jenrink, Prairie View, Kan.
Jewett, H. S., Dayton, Ohio.
Johnson, J. E., Lebanon Junction, Ky.
Johnston, C. H., Lexington, Tenn.
Jones, Allen A., Buffalo, N. Y.
Jones, Clement R., Pittsburg, Pa.
Jones, Frank A., Memphis, Tenn.
Jones, I. D., Cincinnati.
Jones, Joshua T., Salem, Ill.
Jones, Leroy, Hoopeston, Ill.
Jones, O. E., Newport, Ark.
Jordan, James C., Des Moines Ia.
Joy, L. Fowler, Fulton, N. Y.
Jump, David W., Plainfield, Ill.
Junghlut, H. C., Tripoli, Iowa.
Kalbfleisch, A. H., Peru, Ind.
Kampschmidt, A. W., Columbia, Mo.
Kassabian, Nushan H., Coopersville, Mich.
Kaylor, T. D., Barry, Ill.
Keen, L. O., Burkesville, Ky.
Kleith, J. T., Sturgeon, Mo.
Keller, Alvin, Cardiff, Ill.
Kelly, Joseph V., Philadelphia.
Kelly, P. M., Litchfield, Ill.
Kelso, R. S., Joplin, Mo.
Kemp, C. H., Lacon, Ill.
Kemper, G. W. H., Muncie, Ind.
Keogh, John V., Dubuque, Iowa.
Kern, J. H., St. Louis.
Kerr, E. D., Westervelt, Ill.
Kerr, H. L., Sparta, Mo.
Kerr, W. B., Dudley, Mo.
Kerrick, C. L., Chrisman, Ill.
Kerrick, H. C., Brocton, Ill.
Kerrigan, John J., Michigan City, Ind.
Kesl, George M., St. Louis.
Kessler, E. H., St. Louis.
Kimberlin, A. C., Indianapolis.
Kincaid, J. W., Catlettsburg, Ky.
Kirby, Wm. G., Chicago.
Kirk, T. T., Pittsburg.
Kleckner, Ralph E., Mattoon, Ill.
Keir, Charles, St. Louis.
Knappenberger, T. G., Chicago.
Knight, Arthur L., Cincinnati.
Knott, Isaiah, Keytesville, Mo.
Knox, Andrew C., Kansas City, Mo.
Knox, W. T., Manchester, Ill.
Koch, Otto W., Ballwin, Mo.
Konzelman, P. R., St. Louis.
Koontz, Carl J., St. Louis.
Krebs, F. J. V., St. Louis.
Krebs, Paul H., Cleveland.
Kreidler, A. G., Cincinnati.
Kring, C. H., Bellerive, Ill.
Kroeger, Geo. B., St. Louis.
Krug, Fred. H., St. Louis.
Kuhlmann, Frederick C. E., St. Louis.
Lacy, L. S., Pittsfield, Ill.
Laird, William R., Auburn, N. Y.
Lamb, J. G., Fisher, Ill.
Lambert, Alexander, New York.
Landaker, Chester L., Collins, Mo.
Lang, John H., Centertown, Mo.
Lange, Sidney, Cincinnati.
Lare, H. L. P., St. Louis.
Larkin, J. C., Hillsboro, Ohio.
Larrabee, F. W., Alton, Ill.
Laughlin, E. O., Paris, Ill.
Lawry, Carl C., Earlville, Ill.
Lea, Jesse W., Jackson, La.
Lebrecht, John C., St. Louis.
Lee, Elbert J., Sr., Norborne, Mo.
Lee, Jas. R., Columbus, Ky.
Lee, Roger I., Boston.
Lemann, Isaac Ivan, New Orleans.
Lence, John J., Jonesboro, Ill.
Leroy, Louis, Memphis, Tenn.
Le Saulnier, Herman Louis, Red Bud, Ill.
Leslie, C. B., Meade, Kan.

Levison, Louis A., Toledo, Ohio.
Lewis, Chas., St. Louis.
Lewis, C. M., Bridgeport, Ill.
Lewis, H. Edwin, New York.
Lewis, J. R., Ripley, Tenn.
Lichty, John A., Pittsburg, Pa.
Lichty, M. J., Cleveland.
Lillie, C. W., East St. Louis, Ill.
Lindsay, John C., Chicago.
Lindsey, L. N., Forsyth, Ill.
Linvill, Swan, Columbia City, Ind.
Lippert, J., East St. Louis, Ill.
Lipsitz, S. T., St. Louis.
Leston, Joseph Bastie, Shipman, Ill.
Litchfield, Lawrence, Pittsburg, Pa.
Little, Homer M., East St. Louis, Ill.
Little, R. M., East St. Louis, Ill.
Little, Wilbur T., Canon City, Colo.
Little, W. T., Calvert City, Ky.
Lockwood, E. K., Virden, Ill.
Lomas, Willis A., Villisca, Iowa.
Long, Joseph M., St. Louis.
Long, L. S., St. Joseph, Mo.
Love, William S., Bertrand, Mo.
Lowery, Allen, Blackwell, Okla.
Luckett, Chas. D., English, Ind.
Lukemeyer, Edward G., Huntingburg, Ind.
Luman, F. E., Baring, Mo.
Luton, L. S., St. Louis.
Lyles, A. R., Virginia, Ill.
Lyon, A. K., Pittsburg, Pa.
Lyon, George E., Moweaqua, Ill.
Lyon, Geo. E., St. Louis.
McKenzie, Wm. R., Chester, Ill.
Macon, R. B., Clarksville, Tenn.
MacQueen, D. K., Laurium, Mich.
MacRae, John, Calumet, Mich.
Madden, J. H., Colorado Springs, Colo.
Madry, A. H., Aurora, Mo.
Main, R. H., Barry, Ill.
Mandell, A. H., New Bedford, Mass.
Mangus, C. W., Moberly, Mo.
Mann, A. H., Oak Grove, Mo.
Manning, D. F., Marshall, Mo.
Manning, W. J., Cleveland.
Marder, J. L., St. Louis.
Mardorf, Wm. C., St. Louis.
Markley, H. W., Pennville, Ind.
Martin, E. H., Hot Springs, Ark.
Martin, F. A., Tower Hill, Ill.
Martin, Henry L., Kansas City, Mo.
Martin, J. A., Palestine, Ill.
Martin, W. F., Battle Creek, Mich.
Martin, W. T., Albany, Mo.
Marvel, Philip, Atlantic City, N. J.
Mason, J. S., Urbana, Ill.
Mason, Wm. M., Hazel, Ky.
Matlock, J. W., Frost, Tex.
Matthews, F. H., Liberty, Mo.
Matthews, J. C., Springfield, Mo.
Matthews, John Palmer, Carlinville, Ill.
Mattox, Ernest L., West Terre Haute, Ind.
Mattox, W. R., Terre Haute, Ind.
Maxwell, Allison, Indianapolis.
Maxwell, J. B., Mt. Carmel, Ill.
May, Leon J., Cobden, Ill.
Mayberry, F. E., Dorchester, Mass.
Mayes, J. F., St. Louis.
McAnally, J. T., Carbondale, Ill.
McBratney, E. W., St. Louis.
McCall, W. K., Worcester, Mo.
McCaskey, G. W., Fort Wayne, Ind.
McClure, E. C., Bussey, Iowa.
McClymonds, J. T., Lexington, Ky.
McCollam, James A., Uhrichsville, Ohio.
McComb, C. F., Duluth, Minn.
McConkey, C. M., Lathrop, Mo.
McCormick, Frank L., Huntsville, Mo.
McCoy, John H., St. Joseph, Mo.
McCray, Orville, Miamsburg, Ohio.
McCrea, F. M., Eddyville, Iowa.
McCreary, Jacob C., Cave City, Ky.
McCrimmon, F. W., Butte, Mont.
McCullough, J. Y., Casey, Ill.
McCurry, W. T., Texarkana, Ark.
McDonald, Jas. T., Mattoon, Ill.
McDonald, W. H., Clarksville, Tex.
McElroy, Jas. B., Memphis, Tenn.
McFaul, Wm. D., Miles, Iowa.
McGauhey, J. H., White Cloud, Kan.
McGavran, Charles N., Columbus, O.
McGrath, W. J., Elkader, Iowa.
McIlvaine, Thos. M., Peoria, Ill.
McKean, George E., Detroit.
McKenzie, R. E., Gilman, Ill.
McMahon, M., Palmyra, Ill.
McMichael, Austin, Rockport, Mo.
McMichael, O. H., Vernon Center, Minn.
McMurry, Marvin C., Paris, Mo.
McNay, A. L., Pacific, Mo.
McNutt, I. N., Pevely, Mo.
McNutt, W. B. A., Monroe City, Mo.
McVay, L. C., Marion, Ark.
Mead, Kate C., Middletown, Conn.
Medling, W. L., Dyer, Tenn.
Mefford, W. T., Chicago.
Meinhard, J., St. Louis.
Meirink, B. J., Germantown, Ill.
Melton, W. A., Jr., Warrensburg, Ill.
Mehler, F. C., New London, Iowa.
Menefee, B. F., Jonesburg, Mo.
Mercer, William H., Pittsburg, Pa.
Meredith, A. L., Wooldridge, Mo.
Mershon, Glenn E., Mt. Carmel, Ill.
Merwin, Edgar G., Highland, Ill.
Merz, Adolph, St. Louis.
Mesker, Geo. H., Olivia, Minn.
Metcalf, H. L., Springfield, Ill.
Meyer, Grant, Lincolnville, Kan.
Meyer, Harry H., St. Louis.
Miles, Horine, Webster Groves, Mo.
Millar, R. C. M., Forestell, Mo.
Miller, A. B., Macon, Mo.
Miller, DeWitt Clinton R., Mason and Dixon, Pa.
Miller, G. D., Logansport, Ind.
Miller, John H., Pana, Ill.
Miller, John J., St. Louis.
Miller, Joseph S., Chicago.
Miller, R. M., Bogard, Mo.
Miller, Thomas C., Ash Grove, Mo.
Millhon, Homer B., Owaneco, Ill.
Mills, O. P. M., Grant City, Mo.
Mills, R. Walter, Webster Groves, Mo.
Milnamow, J. T., Chicago.
Milner, James, Winchester, Ill.
Mitchell, A. W., Humansville, Mo.
Mitchell, J. M., Oblong, Ill.
Mitchell, W. C., Bradford, Ill.
Moore, Charles, Advance, Mo.
Moon, Edward, Cape Girardeau, Mo.
Moore, G. W., Munger, Mich.
Moore, Harry M., St. Louis.
Moore, J. P., Yazoo City, Miss.
Moore, Roy Dudley, Olivette, Mo.
Moore, William G., St. Louis.
Moorhead, W. H., Stuttgart, Ark.
Montgomery, J. S., Milan, Mo.
Morgan, D. A., Nilwood, Ill.
Morgan, E. E., Fort Wayne, Ind.
Morgan, Thomas Wynn, Virden, Ill.
Morgner, Omar, St. Charles, Mo.
Morrell, M. P., St. Louis.
Morrison, D. A., Buffalo, N. Y.
Morrison, Hugh T., Jr., Springfield, Ill.
Morrison, Lon C., Hurricane, W. Va.
Morse, F. L., St. Louis.
Morrow, E. O., Canton, Ohio.
Morton, D. F., Taylorville, Ill.
Morton, R. J., Green, Kan.
Mosby, C. D., St. Louis.
Mosby, William L., Bardwell, Ky.
Mott, W. H., Farmington, Iowa.
Moyer, S. R., Monroe, Wis.
Mudgett, John H., Philadelphia.
Mueller, Ernst, St. Louis.
Mueller, George L., St. Louis.
Mulky, Carl, Knoxville, Iowa.
Mulligan, Wesley T., Rochester, N. Y.
Muns, George E., Montgomery City, Mo.
Munson, Samuel Edgar, Springfield, Ill.
Murfin, W. W., Patoka, Ill.
Murphy, Franklin E., Kansas City, Mo.
Murphy, F. T., Brinkley, Ark.
Murphy, R. Brent, St. Louis.
Murray, Warren G., Springfield, Ill.
Musser, Charles W., Metz, Mo.
Musser, John H., Philadelphia.
Myer, Jesse S., St. Louis.
Myers, G. T., Macks Creek, Mo.
Myers, Isaac N., Maples, Ind.
Myers, R. E., Kemp, Tex.
Myers, William T., Aldrich, Mo.
Nagle, P. E., Billings, Mo.
Neblett, L. L., Stayton, Tenn.
Neblett, S. E., Southside, Tenn.
Neff, Robert L., Joplin, Mo.
Nelson, C. S., Springfield, Ill.
Nelms, J. N., Taylorville, Ill.
Neuhoff, F., St. Louis.
Newcomb, Arthur T., Pasadena, Cal.
Newcomb, W. K., Champaign, Ill.
Newman, W. T., Independence, La.
Nichols, Fred C., El Paso, Ill.
Nickell, L. O., Maud, Mo.
Nickerson, L. H. A., Quincy, Ill.
Nicks, Harry G., St. Louis.
Niebruegge, H. E., St. Louis.
Niehuss, H. H., Wesson, Ark.
Nifong, William, Fredericktown, Mo.
Nixon, Madison G., Columbia, Ill.
Noble, Harry S., St. Marys, Ohio.
Noble, Nelle S., Des Moines, Iowa.
Nobles, Charles D., Buncombe, Ill.
Norfleet, Carl, Somerset, Ky.
Norment, Henry T., Henderson, Ky.
Nossamann, A. J., Pagosa Springs, Colo.
Nyberg, Robert B., Harrisburg, Ill.
Obermeyer, A. E., Jacksonville, Ill.
O'Brien, Leo F., Sappington, Mo.
Obrock, L. D., St. Louis.
O'Connor, Bernard J., Louisville, Ky.
Ogram, A. J., Jacksonville, Ill.
Ohail, Joseph C., Pittsburg, Pa.
Oliver, L. B., Sigourney, Iowa.
Olmstead, D. S., Millersburg, Ohio.
Olmstead, Russel T., Milan, Ind.
Omer, Wm. J., Thomas, Okla.
O'Reilly, William, Glasgow, Ill.
Osborn, J. F., St. Joseph, Mo.
Osborn, Samuel, Lansing, Mich.
Otis, Frank J., Moline, Ill.
Owen, John R., Arlington, Ky.
Owens, Alfred E., Princeton, Ill.
Owens, Richard J., Mill Spring, Mo.
Owens, William T., Mount Clare, W. Va.
Packer, J. A., Selma, La.
Padberg, Louis R., St. Louis.
Page, A. C., Des Moines, Iowa.
Palmer, Elbert A., Saratoga Springs, N. Y.
Palmer, Marlin J., Beardstown, Ill.
Parish, O. F., Grinnell, Iowa.
Parker, William, Mount Sterling, Ill.
Parker, George, Peoria, Ill.
Parks, A. L., Beardstown, Ill.
Parsons, I. U., Malvern, Iowa.
Patek, Arthur J., Milwaukee, Wis.
Patterson, William R., Tipton, Mo.
Paul, E. W., Forest City, Ill.
Paulson, David, Hinsdale, Ill.
Payne, John E., Richland, Iowa.
Peacock, A. L., Grimes, Iowa.
Peacock, Sam B., Baylis, Ill.
Pearson, Donnell M., Louisiana, Mo.
Peck, John H., Iowa City, Iowa.
Pendergraft, William C., Hollis, Okla.
Perry, W. H., Carterville, Ill.
Peterman, A. L., Parker, S. Dak.
Peters, D. C., Greentown, Ind.
Peters, J. A., Oxford, Iowa.
Peters, M. L., Cameron, Mo.
Petty, Wallace S., Rutledge, Mo.
Pfeffer, Peter A., St. Louis.
Phillips, G. H., Pawnee, Okla.
Philp, W. H., St. Francis, Ark.
Pigman, S. C., Concordia, Kan.
Pihlblad, Arvid, Lindsborg, Kan.
Pile, O. F., Memphis, Mo.
Pinckard, J. A., Atwood, Ill.
Pipkin, Walter D., Excello, Mo.
Pitman, John, Kirkwood, Mo.
Pitner, T. J., Jacksonville, Ill.
Podlewski, S. J., Steubenville, Ohio.
Pohlmann, F. L., St. Louis.
Pollock, Avon S., Big Sandy, Tex.
Pomeroy, F. S., Chardon, Ohio.
Poole, A. R., Milan, Mo.
Poos, G. H., Summerfield, Ill.
Pope, C. H., St. Louis.
Pope, Rolla D., Du Quoin, Illl.
Porter, David R., Kansas City Mo.
Porter, H. L., Seneca, Mo.
Porter, James A., Ripley, Tenn.
Porter, John E., Knob Noster, Mo.
Porterfield, Elmo P., St. Louis.
Porterfield, William Lowrie, Chicago.
Posner, Edward R., Des Moines, Ia.
Potter, George B., Shelby, Neb.
Potter, Theodore, Indianapolis.
Potter, Will H., Niagara Falls, N. Y.
Powell, E. A., Cleveland.
Powell, J. T., Maysville, Ark.
Pratt, Joseph H., Boston.
Price, D. T., Booneville, Miss.
Price, Joseph, Columbus, Ohio.
Priestley, James Taggart, Des Moines, Iowa.
Pritchett, G. L., Fairbury, Neb.
Proctor, John M., Hot Springs, Ark.
Purves, G. K., Wichita, Kan.
Rafter, James G., Huntsville, Mo.
Ragsdale, Thomas J., Lees Summit, Mo.
Raines, Robert F., Red Cloud, Neb.
Ramsbrok, C. R., Huntingburg, Ind.
Rankin, B. S., Tunnelton, W. Va.
Rathbun, Frank D., New Windsor, Ill.
Rawlings, C. L., New Harmony, Ind.
Ray, W. B., Glenshaw, Pa.
Rayhill, C. G., Belleville, Ill.
Rayner, H. W., What Cheer, Iowa.
Read, Frederick B., Osceola Mills, Pa.
Reagan, R. M., Monon, Ind.
Reagor, F. B., Shelbyville, Tenn.
Reber, Robert L., St. Louis.
Reed, John H., Logansport, Ind.
Rehfeldt, Charles Sixtus, St. Louis.
Reid, Charles T., Carona, Kan.
Reid, David W., Jacksonville, Ill.
Reid, John D., Pilger, Neb.
Reis, Henry, Jr., Belleville, Ill.
Rennie, Wesley H., Washington, D. C.
Replogle, J. A., Udell, Iowa.
Reynolds, D. M., Clayton, Ind.
Rhodés, O. M., Bloomington, Ill.
Rice, D. H., Colorado Springs, Colo.
Rice, Ollie W., Alderson, Okla.
Richards, A. F., Sparta, Tenn.
Richards, Raymond G., St. David, Ill.
Richardson, W. D., Centralia, Ill.
Richter, George, St. Louis.
Ridgway, William F., Atlantic City, N. J.
Riely, Lea A., Oklahoma City, Okla.
Ring, Frank, St. Louis.
Ristine, Warren H., Crawfordsville, Ind.
Ritter, John, Chicago.
Rivard, G. J., Assumption, Ill.
Roane, J. Q., Carlyle, Ill.
Robb, Winifred A. Yelton, Newton, Ill.
Roberts, Edwin E., Mount Erie, Ill.
Robertson, J. M., Bunceton, Mo.
Robinson, A. C., St. Louis.
Robinson, John L., Kansas City, Mo.
Robinson, S. T., Edwardsville, Ill.
Rochester, Delancey, Buffalo, N. Y.
Rockbill, C. S., Cincinnati.
Rodes, W. R., Mexico, Mo.
Rodman, Wm. E., Hodgenville, Ky.
Rohlfing, Arthur H., St. Louis.
Rohlfing, Charles G., St. Louis.
Rohlfing, Henry A. L., St. Louis.
Rosborough, J. L., Senatobia, Miss.
Roselle, Thos. A., Palmyra, Mo.
Rosenberger, F. E., Grandfield, Okla.
Rosenow, Edward C., Chicago.
Rosewater, Nathan, Cleveland.
Ross, Charles C., Clarion, Pa.
Ross, H. R., Sterling, Kan.
Rothwell, C. A., Mexico, Mo.
Rothwell, John H., Liberty, Mo.
Rouse, W. L., Painterville, Ohio.
Rowe, H. J., Willow Springs, Mo.
Roy, Frank K., Clarence, Mo.
Roy, Philip S., Washington, D. C.
von Ruck, Silvio, Asheville, N. C.
Rucker, Marvin Pierce, Manchester, Va.
Runyon, F. J., Clarksville, Tenn.
Ruppert, G. F., Elgin, Ill.
Rush, Andrew W., Greenville, O.
Rusk, Jno. A., Gray Summit, Mo.
Russell, J. J., Deepwater, Mo.
Russell, R. L., Humansville, Mo.
Rutherford, Leslie, Peoria, Ill.
Ruyle, Henry J., Springfield, Mo.
Ryall, George N., Wooster, Ohio.
Ryan, Granville N., Des Moines, Ia.
Sale, Llewellyn, St. Louis.
Salter, John C., St. Louis.
Sample, John Thomas, Saginaw, Mich.
Sanders, Claude J., Ashley, Ill.
Sanders, Jno. F., Blytheville, Ark.
Sanders, S. F., Holdrege, Neb.
Sanders, W. E., Alta, Iowa.
Sargent, Oscar F. L., Lawrence, Mass.
Sawhill, Wm. F., Concordia, Kan.
Sawyer, John P., Cleveland.
Schaub, Chas. W., St. Louis.
Schisler, Edwin, St. Louis.
Schneck, S. W., Mt. Carmel, Ill.
Scholz, Phil, St. Louis.
von Schrader, A., St. Louis.
Schrader, J. F., Bridgeport, Ill.
Schraeder, S. P., Nashville, Ill.
Schreifels, Leonard, Granite City, Ill.
Scheve, Elmer F., Mascoutah, Ill.
Schuchat, W. Louis, St. Louis.
Schulz, F. M., Wauwatosa, Wis.
Schuman, O. V., Columbia City, Ind.
Scott, Frank C., Adrian, Ill.
Scott, John Nesbit, Kansas City, Mo.
Scott, Ralph B., Venice, Ill.
Scott, Walter E., Adel, Iowa.
Scruggs, J. P., Lenox, Iowa.
Salter, Allen, Lena, Ill.
Sears, Chas. E., Wallace, Idaho.
Seely, Wm. J., Red Bud, Ill.
Seever, Albert E., St. Louis.
Sewing, Arthur H., St. Louis.
Shafer, Frank M., Edgerton, Mo.
Shaffer, Carl J., Carson, Iowa.
Shallenberger, W. E., Canton, Ill.
Shanklin, Benjamin, St. Louis.
Shannon, J. D., Greenfield, Tenn.
Sharp, W. L., Slater, Mo.
Shattinger, Charles, St. Louis.
Shattuck, George Cheever, Boston.
Shaw, J. W., St. Louis.
Sheahan, E. L., St. Louis.
Sheets, M. E., St. Louis.
Sheldon, Charles Stuart, Madison, Wis.
Sherman, Paul, Shawneetown, Ill.
Shirley, H. W., Shoals, Ind.
Shoat, F. A., Veedersburg, Ind.
Shobe, H. G., Jefferson City, Mo.
Shore, John Paul Jones, Sailor Springs, Ill.
Shuttee, H. C., West Plains, Mo.
Sieving, H. J. C., St. Louis.
Sifford, W. R., Nashville, Tenn.
Silcox, J. Evart D., Rio, Ill.
Simon, Sidney K., New Orleans.
Simonton, Thomas Grier, Pittsburg, Pa.
Sims, J. Morgan, Collinsville, Ill.
Sisson, E. R., Greenfield, Ind.
Skaggs, Charles S., East St. Louis, Ill.
Slaughter, A. W., Green Bay, Wis.

Sloan, Arthur N., Sioux City, Iowa.
Sloan, Robert T., Kansas City, Mo.
Sloss, Herbert J., Meade, Kan.
Smiley, Thomas B., Mt. Vernon, S. Dak.
Smith, Arthur B., Wellington, O.
Smith, C. G., Red Bud, Ill.
Smith, William H., Boston.
Smith, C. J., Pendleton, Ore.
Smith, Edward, Jr., St. Louis.
Smith, E. Franklin, New York.
Smith, Geo. S., Liberal, Kan.
Smith, Henry S., Ishpeming, Mich.
Smith, J. Atkinson, St. Louis.
Smith, J. D., Shelbina, Mo.
Smith, John Kirby, Fredericktown, Mo.
Smith, Louis J., Percy, Ill.
Smith, L. T., Newton, Kan.
Smith, R. O., Pittsburg, Ill.
Smith, Samuel A., Annapolis, Ill.
Smith, William Hale, Hondo, Tex.
Smith, Wm. M., Springfield, Mo.
Smith, Webster S., Dayton, Ohio.
Smithies, Frank, Ann Arbor, Mich.
Snider, S. J., Courtland, Kan.
Sogge, Ludwig, Windom, Minn.
Solliday, M. H., Taylorville, Iowa.
Somes, Joseph F., Vincennes, Ind.
Sorrells, C. C., Royse City, Tex.
Soule, C. E., Beardstown, Ill.
Southard, Daniel B., Mt. Vernon, Ky.
Sowder, Chas. R., Indianapolis.
Spilch, A. B., Chicago.
Sparks, J. E., Crossett, Ark.
Sprecher, Daniel B., Sykesville, Md.
Sprowls, J. N., Claysville, Pa.
Stacy, George Herbert, Jacksonville, Ill.
Stahl, S. S., Franklin, Ohio.
Standly, Edmond D., Brookfield, Mo.
Standly, Z. T., Laclede, Mo.
Staneff, D., Chicago.
Stanger, G. H., Boone, Iowa.
Stanley, A. C., Tillar, Ark.
Stanley, J. B., Memphis, Tenn.
Stanton, T. P., Chariton, Iowa.
Statler, Will K., Oakridge, Mo.
Stearns, Melvin J., Ogdensburg, N. Y.
Stedman, S. M., Versailles, Ky.
Steele, Andrew D., Chester, Ill.
Steele, R. G., Melmore, Ohio.
Steele, W. E., Carthage, Mo.
Steely, Geo. W., Louisville, Ill.
Stein, Chas., Glasco, Kan.
Stericker, George F., Springfield, Ill.
Stern, Heinrich, New York.
Stewart, J. C., Anna, Ill.
Stewart, John H., Jr., Exeter, Ill.
Stewart, W. Blair, Atlantic City, N. J.
Stickney, Victor H., Dickinson, N. Dak.
Stiers, Fred L., East Peoria, Ill.
Stocking, L. C., St. Louis.
Stocks, Chester L., Bushong, Kan.
Stockton, Chas. G., Buffalo, N. Y.
Stockwell, Benjamin E., St. Louis.
Stone, Chas. E., Shoals, Ind.
Stone, Willard E., Toledo, Ohio.
Stoops, P. H., Ipava, Ill.
Stover, Chas., Amsterdam, N. Y.
Stowell, James H., Chicago.
Strode, Robt. C., Mexico, Mo.
Stroud, C. G., Erbacon, W. Va.
Strouss, U. S., Beaver, Pa.
Stubbins, S. G., Birmingham, Ala.
Stucky, Thomas H., Louisville, Ky.
Stultz, Benj. F., Moweaqua, Ill.
Stumm, T. W., St. Paul, Minn.
Sturgis, W. E., Kennett, Mo.
Sullivan, J. H., Charlotte, N. Y
Summers, J. S., Jefferson City, Mo.
Swan, John M., Watkins, N. Y.
Swan, W. S., Harrisburg, Ill.
Swaney, A. G., Lee's Summit, Mo.
Swartsel, S. C., Cincinnati.
Swope, Opie W., Holly, Colo.
Talbot, Ambrose, Kansas City, Mo.
Tatum, Harry E., Brunswick, Mo.
Taugher, J. P., Milwaukee, Wis.
Taussig, Albert E., St. Louis.
Taussig, Arnold S., Denver.
Taylor, E. P., Fairfax, Mo.
Taylor, J. E., Leopold, Ind.
Taylor, T. M., New York.
Taylor, W. R., Ft. Recovery, Ohio.
Teas, James Joseph, Waverly, Tenn.
Teel, S. M., Prairie Home, Mo.
Temple, C. H., Glasgow, Mo.
Thackeray, W. T., Chicago.
Tharp, Royal, Benton, Ill.
Thiberge, Narcisse F., New Orleans.
Thielen, M. H., Grundy Center, Ia.
Thieme, G. C., Baltimore, Ind.
Thompson, A. W., Galt, Mo.
Thompson, C. W., Meadville, Pa.
Thornton, Joseph E., Columbia. Mo.
Thornton, William H., Buffalo, N. Y.
Thorpe, A. V., Jamestown, Mo.
Throckmorton, Tom M., Chariton, Iowa.
Thurnser, Lawrence, St. Louis.
Thurston, H. S., Indianapolis.
Tice, Frederick, Chicago.
Tidball, J., Pacific Beach, Cal.
Tileston, Wilder, New Haven, Conn.
Tiller, J. A., Bloomfield, Mo.
Tillotson, James R., Delphos, Ohio.
Timberman, J. H., Marston, Mo.
Toalson, Jas. J., Peoria, Ill.
Todd, William T., Thompson, Mo.
Toland, W. H., Mineral Springs, Ark.
Tollison, W. A., Eufaula, Okla.
Tompkins, Wm. W., Charleston, W. Va.
Toney, L. E., Piedmont, Mo.
Topping, M. H., Flat River, Mo.
Tout, B. B., Archie, Mo.
Townsend, W. H., St. Louis.
Trask, C. A., Kansas City, Mo.
Traubitz, Arnold, Neelyville, Mo.
Travis, D. J., Eddyville, Ky.
Travis, F. M., Gilbertsville, Ky.
Treat, David T., Adrian, Mich.
Treynor, V. L., Council Bluff, Ia.
Trotter, G. S., Dundas, Ill.
Trout, W. A., Atwater, Ill.
Troutman, R. E., Logansport, Ind.
Trueblood, R. R., Lawrenceville, Ill.
Tubbs, Geo. R., West Point, Ind.
Turck, Fenton B., Chicago.
Turner, A. F., Taylorville, Ill.
Tweedy, J. R., Oraville. Ill.
Tweedy, Walter R., Royalton, Ill.
Tyree, Cyrus E., Trenton, Tenn.
Ude, Waldemar, St. Louis.
Upham, J. H. J., Columbus, Ohio.
Urban, Robt. O., Evansville. Ill.
Vadakin, J. H., Bushong, Ill.
Vandervort, F. C., Bloomington. Ill.
Vandivort, A. H., St. Joseph, Mo.
Van Dyke, A. D., Marysville, Pa.
Van Gasken, Frances C., Philadelphia.
Van Hoefen, T., St. Louis.
Van Hoefen, Samuel, St. Louis.
Van Hoefen, Siegfried, St. Louis.
Van Hook, H. M., Mt. Pulaski, Ill.
Van Winkle, B. L., Belpre, Ohio.
Van Zwaluwenburg, Jas. G., Ann Arbor, Mich.
Vaughn, H. C., Shelbina, Mo.
Vertrees, C. M., Murrayville, Ill.
Vessells, Francis M., Perryville, Mo.
Viedt, Edw. J., St. Louis.
Vinyard, G. W., Jackson, Mo.
Vitt, Rudolph S., St. Louis.
Voris, H. M., East St. Louis, Ill.
Wadsworth, J. L. R., Collinsville, Ill.
Wagers, Arthur J., St. Louis.
Walker, Henry Owen, Newport. Ark.
Walker, H. W., Grantsburg, Ill.
Walker, James Hamilton, Effingham, Ill.
Walker, R. A., St. Louis.
Wallace, J. S., Brunswick, Mo.
Wallis, James C., Arkadelphia, Ark.
Wallis, J. R., Clinton, Mo.
Walt, D. C., Little Rock, Ark.
Ward, Edgar P., St. Louis.
Warren, G. A., Black Rock, Ark.
Washburn, George W., Peoria, Ill.
Washburn, Lawrence Lee, Heights, Ky.
Waterman, J. A., Jefferson City, Mo.
Waters, R. S., Brookport, Ill.
Waters, S. C., Middletown, Ind.
Waters, W. T., New London, Mo.
Watson, Walter, Mt. Vernon, Ill.
Wattleworth, James R., Yale, Ill.
Way, James P., Chicago.
Weber, Geo. H., Peoria, Ill.
Webster, Geo. W., Chicago.
Weir, S. W., Marshall, Ill.
Weis, J. W., Manchester, Ill.
Weiss, H. G., Rockport, Ind.
Weiss, Richard S., St. Louis.
Weiss, William, St. Louis.
Weitener, Herman L., St. Louis.
Welch, J. C., Bellevue. Pa.
Welch, William A., Callao, Mo.
Well, Wm., Versailles, Mo.
Wells, Russell P., Pleasant Hill, Ill.
Wesseler, F. W., St. Louis.
West, Wm. M., Monett, Mo.
Whaley, Lewis, Birmingham, Ala.
White, Chas. A., St. Louis.
White, E. C., West Brooklyn, Ill.
White, L. C., Adair, Okla.
White, S. Marx, Minneapolis.
White, Sam W., Franklin, Tenn.
Whited, D. F., Dahlgren, Ill.
Whitefort, A. R., St. Elmo, Ill.
Whitman, Wm. V., Tucson, Ariz.
Wickham, A. B., Detroit.
Wilcox, S. H., Shattuc, Ill.
Wilhelmy, A. F., Decatur, Ill.
Wilhoit, J. C., Manhattan, Kan.
Wilkes, B. A., St. Louis.
Wilkins, David R., Pocahontas, Ill.
Wilkinson, George E., Alton, Ill.
Williams, F. S., Villisca, Iowa.
Williams, Martha R., Cincinnati.
Williams, W. T., Mt. Carmel, Pa.
Williamson, W. H., Mokena, Mo.
Willingham, Edward B., Paducah, Ky.
Wilson, Dunning S., Louisville, Ky.
Wilson, E. H. G., Cape Girardeau, Mo.
Wilson, H. E., Centralia, Ill.
Wilson, J. F., Burlison, Tenn.
Wilson, J. M., Marissa, Ill.
Wilson, Olive A. C., Paragould, Ark.
Wilson, Robert, Jr., Charleston, S. C.
Wilson, W. A., Willard, N. Mex.
Willson, Robert N., Philadelphia.
Winn, R. M., Hannibal, Mo.
Winter, William, St. Louis.
Wire, G. W., Wilmington, Ohio.
Witherspoon, J. A., Nashville, Tenn.
Witmer, C. M., Marble Hill, Mo.
Witt, W. H., Nashville, Tenn.
Witter, W. L. M., Milan, Mo.
Wolf, I. J., Kansas City, Mo.
Wolfe, Harlow M., Taylorville, Ill.
Wolfe, Samuel, Philadelphia.
Wood, Adolph M., Lentner, Mo.
Wood, Hilliard, Nashville, Tenn.
Woodson, L. M., Gallatin, Tenn.
Woodward, C. E., Decatur, Ill.
Woodward, H. L., Cincinnati.
Woolley, W. T., Seattle, Wash.
Wootton, W. T., Hot Springs, Ark.
Wright, Lyman D., Rochester, Ill.
Wright, Nelson A., Manito, Ill.
Wright, W. E., Newark, Ohio.
Wyer, H. G., Kirkwood, Mo.
Wynn, Frank B., Indianapolis.
Yates, Martin, Fulton, Mo.
Yates, William N., Fayetteville, Ark.
Yeagle, Rowland P., Pleasant Hill, Mo.
Yeater, H. P., Maysville, Mo.
Yencer, M. W., Richmond, Ind.
Yocum, L. A., Wooster, Ohio.
Yolton, John L., Bloomington, Ill.
York, Margaret M., Flushing, N. Y.
Young, J. G., Pontiac, Ill.
Youngman, J. Andrew, St. Louis.
Youngquist, O. G., Marquette, Mich.
Yung, J. R., Terre Haute, Ind.
Zimmermán, Carl A. W., East St. Louis, Ill.
Zinninger, George F., Canton, O.
Zook, A. J., Adair, Iowa.

Obstetrics and Diseases of Women

Abrams, Edward T., Dollar Bay, Mich.
Aird, A. J., Carterville, Ill.
Altman, J. T., Nashville, Tenn.
Altman, Maurice, Springfield, Ill.
Anderson, Winslow, San Francisco.
Andrews, Frank T., Chicago.
Angle, George K., Silver City, N. M.
Ayers, Treston R., St. Louis.
Bacon, Charles S., Chicago.
Baker, George W., Ogden, Utah.
Baker, Marshall, Webster Groves, Mo.
Baldy, John M., Philadelphia.
Ballard, C. N., Oklahoma City, Okla.
Bandler, Samuel Wyllis, New York
Barbour, E. E., Peoria, Ill.
Barrett, Channing W., Chicago.
Bassett, C. W., St. Louis.
Beattie, T. J., Kansas City, Mo.
Bedal, Adelheid C., St. Louis.
Bell, J. F., Elgin, Ill.
Bell, John N., Detroit.
Benjamin, Arthur E., Minneapolis.
Bentele, Elizabeth, St. Louis.
Blender, William, Carthage, Ill.
Blocklinger, A. H., Dubuque, Iowa.
Boldt, H. J., New York.
Boswell, C. J., Mounds, Ill.
Boyd, D. H., Pittsburg, Pa.
Bradford, Walter C., Shawnee, Okla.
Bremmer, H. A., Ashton, Ill.
Brown, Columbus, Herrin, Ill.
Bullard, Rose T., Los Angeles.
Burkhardt, C. F., Effingham, Ill.
Burns, Howard, Carrollton, Ill.
Burns, T. Mitchell, Denver.
Byford, Henry T., Chicago.
Byrum, J. M., Shawnee, Okla.
Cadwallader, J. H., St. Louis.
Campbell, H. C., Jacksonville, Ill.
Cape, L. W., Maplewood, Mo.
Carley, Harry D., St. Louis.
Carson, Gib W., St. Louis.
Carstens, J. H., Detroit.
Chalfant, Sidney A., Pittsburg.
Chumbley, Charles A., Rocky, Okla.
Clark, John E., Philadelphia.
Clark, M. T., Temple, Okla.
Clegg, Joseph T., Siloam Springs, Ark.
Cook, Charles P., New Albany, Ind.
Cooper, St. Cloud, Fort Smith, Ark.
Copeland, M. A., Birmingham, Ala.
Crain, B. F., Carterville, Ill.
Crossen, H. S., St. Louis.
Culbertson, Carey, Chicago.
Curtis, A. N., St. Louis.
Dail, A. W., Cement, Okla.
Damour, F., Bolckow, Mo.
Damron, O. H., Silex, Mo.
Davis, E. C., Atlanta, Ga.
Davis, E. N., Little Rock, Ark.
Davis, J. D. S., Birmingham, Ala.
Deichmann, Otto H., Springfield, Ill.
Dever, Harvey Albert, El Reno, Okla.
Doane, Philip S., Chicago.
Doederlein, Theo J., Chicago.
Dorsey, F. B., Keokuk, Iowa.
Dorsett, E. Lee, St. Louis.
Dorsett, Walter B., St. Louis.
Downs, Alfred J., Los Angeles.
Drechsler, Louis, St. Louis.
Dummit, Manford, Pierce City, Mo.
Dunlap, Elbert, Dallas, Tex.
Ehrenfest, Hugo, St. Louis.
Eidmann, Walter Ph., St. Louis.
Estel, G. A., Jacob, Ill.
Evers, Emile T., St. Louis.
Freemore, R. S., Blue Rapids, Kan.
Fleming, C. K., Denver.
Fockler, G. W., Delavan, Ill.
Foulkrod, Collin, Philadelphia.
Frame, C. N., Ewing, Mo.
Frederick, Carlton C., Buffalo, N. Y.
Freeman, T. O., Mattoon, Ill.
Froehlich, Herman, Hibbing, Minn.
Fry, Henry D., Washington, D. C.
Fuchs, Walter H., St. Louis.
Fuhrmann, Richard H., St. Louis.
Gardner, M. N., Greenleaf, Kan.
Garner, William S., Baltimore.
Gayler, W. C., St. Louis.
Gehrung, Eugene C., Denver.
Gellhorn, George, St. Louis.
Gilbert, William H., Evansville, Ind.
Gilliam, D. Tod, Columbus, Ohio.
Gillmore, Robert T., Chicago.
Glaser, Martin J., St. Louis.
Glasgow, Frank A., St. Louis.
Gledhill, Henry R., Jerseyville, Ill.
Goffe, J. Riddle, New York.
Goldspohn, Albert, Chicago.
Gray, A. L., St. Joseph, Mo.
Greer, Bertha Allen, Lamoni, Iowa.
Hall, C. Lester, Kansas City, Mo.
Hamilton, M. F., Mannington, W. Va.
Handley, Walter E., St. Louis.
Hanna, M. A., Kansas City, Mo.
Hargrave, Edward T., Norfolk, Va.
Harmann, M. F., St. Louis.
Hartley, S. D., Nebo, Mo.
Hartung, Henry, Chicago.
Hanser, Herman A.; St. Louis.
Hays, William H., Hannibal, Mo.
Herington, Warner, Green City, Mo.
Herriott, E. L., San Antonio, Tex.
Hinchey, Frank, St. Louis.
Hipke, Gustav A., Milwaukee, Wis.
Hodges, Duff M., East Prairie, Mo.
Hoffman, C. S., Keyser, W. Va.
Holland, S. Z., Paducah, Ky.
Holt, E. E., St. Louis.
Hopkins, M. J., St. Louis.
Howard, Charles E., Benton, Ky.
Hull, Edw. T., New York.
Huggins, Raleigh R., Pittsburg, Pa.
Hypes, B. M., St. Louis.
Jacobson, Henry, St. Louis.
Jacobson, J. H., Toledo, Ohio.
Jewett, Charles, Brooklyn.
Johnson, Frank P., St. Louis.
Johnson, George A., Moberly, Mo.
Johnson, Henry L. E., Washington, D. C.
Johnston, J. Ambrose, Cincinnati.
Kahn, Maurice, Chicago.
Kasten, W. C., Fort Madison, Iowa.
Keehn, G. A., St. Louis.
Kelly, J. W., Springfield, Ill.
Kendell, Herbert W., Covington, O.
Kennedy, Bernays, Indianapolis.
Kenton, J. R., Raymond, Ill.
Kepler, Charles Ober, Boston.
Kerr, William, Randolph, Iowa.
Kerwin, W., St. Louis.
Kier, William F., St. Louis.
Kimball, Arthur C., St. Louis.
Kirton, J. R. W., Phoenix, Mich.
Lattin, Cora Billings, Buffalo, N. Y.
Lawrence, Florus F., Columbus, Ohio.
Leonard, Homer O., Kansas City, Mo.
Leslie, James Frank, Maunie, Ill.
Long, Judson H., East Moline, Ill.
Lothrop, Earl P., Buffalo, N. Y.
Lougeay, S. M., Fayetteville, Ill.
Luzader, Katherine B., Greenville, Ill.
Mackey, A. N., Aledo, Ill.
Manton, W. P., Detroit.
March, E. J., Canton, Ohio.
Marcy, Henry O., Boston.
Marshall, Clara, Philadelphia.
Marx, Ella, St. Louis.
Massey, G. Betton, Philadelphia.

Max, C. O. C., St. Louis.
Mayes, J. A., Denison, Tex.
McAlexander, R. O., Indianapolis.
McCallin, A. E., Hancock, Wis.
McCarroll, Horace R., Walnut Ridge, Ark.
McCullough, G. T., Missoula, Mont.
McEwen, Mary Gilruth, Evanston, Ill.
McGann, Peter J., Wellston, Mo.
McGowen, T. J., Vincennes, Ind.
McGuire, M. F., Montpelier, Vt.
McKee, E. S., Cincinnati.
McLean, Mary H., St. Louis.
McMurray, R. J., St. Francisville, Ill.
McMurtry, Lewis S., Louisville, Ky.
McNutt, Julia G., Albany, N. Y.
McNutt, Sarah J., New York.
McPherson, Ross, New York.
McRoberts, W. J., Hot Springs, S. D.
Meek, Edward, Little Rock, Ark.
Miller, C. Jeff, New Orleans.
Miner, Elizabeth R., Macomb, Ill.
Missimore, L. E., St. Louis.
Mitchell, John H., Mount Vernon, Ill.
Montgomery, Edward B., Quincy, Ill.
Montgomery, E. E., Philadelphia.
Moore, B. W., St. Louis.
Moon, Phoebia Gean, Mannington, W.Va.
Morris, L., Stockport, Iowa.
Mosher, Eliza M., Brooklyn.
Murphy, John C., St. Louis.
Myers, J. F., Decatur, Ala.
Neff, G. R., Farmington, Iowa.
Newman, Henry Parker, San Diego, Cal.
Newman, J. W., New Orleans, La.
Newman, Percy, St. Louis.
Noble, Sarah A., Clearwater, Kan.
Novak, Emil, Baltimore, Md.
Ogle, Alvin L., St. Louis.
Oliver, A. H., Edwardsville, Ill.
Olsen, S. H., Milaca, Minn.
Oyler, H. S., Lincoln, Ill.
Pantzer, H. O., Indianapolis, Ind.
Parman, David R., St. Louis.
Parrish, George, Portland, Ore.
Paschall, J. B., Fulton, Ky.
Patton, Chas. L., Springfield, Ill.
Peck, George A., New Rochelle, N. Y.
Peterson, Reuben, Ann Arbor, Mich.
Potter, Irving W., Buffalo, N. Y.
Potter, Marjory J., Niagara Falls, N. Y.
Potts, F. T., Toluca, Ill.
Powell, Ignatius W., St. Louis.
Raab, Ernst P., Belleville, Ill.
Randle, H. T., Clayton, Mo.
Rice, Dell Frank, St. Louis.
Reis, Emil, Chicago.
Ritter, Caleb A., Kansas City, Mo.
Robbie, Mary King, San Antonio, Tex.
Rodman, W. W., Pierce City, Mo.
Rogier, Henry O., Mason City, Ill.
Rothbrock, J. L., St. Paul, Minn.
Rosenthal, Max, New York, N. Y.
Rotter, Charles F., St. Louis, Mo.
Rusk, Elizabeth, St. Louis, Mo.
Russell, Rose A., Granite City, Ill.
Ryland, C. T., Lexington, Mo.
Sahlender, Otto L., St. Louis.
Sampson, John A., Albany, N. Y.
Sands, T. E., Battle Creek, Mich.
Sanes, K. I., Pittsburg, Pa.
Scheel, A. M., Belleville, Ill.
Schlossstein, A. G., St. Louis.
Schmeling, A. F., Columbus, Wis.
Schoenberg, Albert J., Chicago.
Schulz, Edward, St. Louis.
Schwarz, Henry, St. Louis.
Scott, James M., St. Louis.
Shafer, H. O., Chicago.
Shafer, Winfield S., Rochester, Ind.
Shawl, J. L., Onarga, Ill.
Shlenker, Milton A., New Orleans.
Shoemaker, G. Erety, Philadelphia.
Short, R. B., Union Mills, Ind.
Sigmond, Harvey W., Crawfordsville, Ind.
Simpson, F. F., Pittsburg.
Singer, Jacob Jesse, St. Louis.
Smith, Frederick LeRoy, Chatfield, Minn.
Smith, H. W., Roadhouse, Ill.
Smith, L. S., Gypsy, W. Va.
Smith, Richard R., Grand Rapids, Mich.
Spain, Kate E., St. Louis.
Strange, J. W., Loogootee, Ind.
Starring, Anna M. F., Detroit, Mich.
Storrs, Henry John, St. Louis.
Sullivan, Walter G., Providence, R. I.
Sutton, H. T., Zanesville, Ohio.
Swahlen, Percy H., St. Louis.
Sweringen, Budd Van, Ft. Wayne, Ind.
Taussig, Fred. J., St. Louis.
Teter, D. P., Chicago.
Thompson, Logan M., Macon, Mo.
Thompson, Wm. H., Winamac, Ind.
Threadgill, Jesse M., New Douglas, Ill.
Tinney, R. M., Kerwin, Kan.
Tobin, John R., Elgin, Ill.
Toombs, Percy W., Memphis, Tenn.
Trigg, J. M., Shawnee, Okla.
Tucker, R. O., Nashville, Tenn.
Tuholske, Morris C., St. Louis.
Urban, E. T., St. Louis.
Vandervoort, Louis E., Battle Creek, Mich.
Vogt, William H., St. Louis.
Walker, Edwin, Evansville, Ind.
Walker, J. A., Shawnee, Okla.
Wallace, G. R., Bertrand, Mo.
Walton, John E., Medora, Ill.
Weeks, L. C., Detroit, Minn.
Weinsberg, Julius H., St. Louis.
Welch, John E., New York.
Wentker, B. P., St. Charles, Mo.
Werder, X. O., Pittsburg, Pa.
Wetherill, Horace G., Denver.
Whetstone, Mary S., Minneapolis.
White, Marion L., Dixon, Ill.
Wickstrom, A. M., Chicago.
Wickstrom, Emma M., Chicago.
Willeford, Geo. W., Washington, Ind.
Wilson, Dora Greene, Kansas City, Mo.
Wilson, Roy E., LaBelle, Mo.
Winter, H. A., Saybrook, Ill.
Wobus, R. E., St. Louis.
Woodul, T. W., Pine Bluff, Ark.
Wright, Louisa V., Camas, Wash.
Yerkes, T. P., Upper Alton, Ill.
Yost, Walter B., St. Louis.
Zimmermann, Ernst, Quincy, Ill.
Zinke, E. Gustav, Cincinnati, Ohio.

Surgery

Abbe, Robert, New York.
Abbe, Truman, Washington, D. C.
Abbott, C. A., Oskaloosa, Ia.
Abbott, George K., Loma Linda, Cal.
Abelmann, Henry W., Chicago.
Abramson, Louis, Shreveport, La.
Ader, Lewis H., Jr., Philadelphia.
Albrecht, Franklin H., St. Louis.
Alderson, M. E., Russellville, Ky.
Alexander, R. D., St. Louis.
Alexander, R. J., Waco, Tex.
Allaben, John E., Rockford, Ill.
Allen, Carroll W., New Orleans.
Allen, L. G., Litchfield, Ill.
Allen, William L., Davenport, Ia.
Allison, Nathaniel, St. Louis.
Ambrose, Olney A., St. Louis.
Amyx, Robert F., St. Louis.
Anderson, C. F., Nashville, Tenn.
Anderson, H. B., Newark, O.
Anderson, Hartley J., Pittsburg, Pa.
Andrews, E. Wyllys, Chicago.
Applegate, W. A., Washington, D. C.
Armstrong, Guy L., Taylorville, Ill.
Armstrong, John H., St. Louis.
Asman, Bernard, Louisville, Ky.
Axline, Joseph T., St. Louis.
Axtell, J. T., Newton, Kan.
Ayers, Douglas, Fort Plain, N. Y.
Ayers, Samuel, Kansas City, Mo.
Babler, Edmund A., St. Louis.
Bacon, Joseph B., Macomb, Ill.
Bailey, Fred W., St. Louis.
Bain, Frank D., Kenton, O.
Baird, Ben D., Galesburg, Ill.
Baker, A. E., Charleston, S. C.
Baker, W. M., St. Louis.
Ball, W. A., Wanette, Okla.
Ballenger, Edgar G., Atlanta, Ga.
Ballin, Max, Detroit.
Bansbach, J. J., St. Joseph, Mo.
Barcus, Paul J., Crawfordsville, Ind.
Barker, F. Dale, Dayton, O.
Barnsback, R. E., Edwardsville, Ill.
Barnett, Charles E., Fort Wayne, Ind.
Barnes, Rollin H., St. Louis.
Barney, Reuben, Chillicothe, Mo.
Bartels, Leo G., St. Louis.
Bartlett, Willard, St. Louis.
Bascom, H. M., Ottawa, Ill.
Basham, D. W., Wichita, Kan.
Bath, Thomas W., Bloomington, Ill.
Battey, William W., Jr., Augusta, Ga.
Beach, William M., Pittsburg, Pa.
Beck, Carl, Chicago, Ill.
Beck, Emil G., Chicago.
Beck, H. E., Moline, Ill.
Becker, W. H., St. Louis.
Becknell, I. J., Goshen, Ind.
Becton, E. P., Greenville, Tex.
Beede, S. C., David City, Neb.
Beedle, Gordon A., Kansas City, Mo.
Bell, Elexious T., Columbia, Mo.
Benepe, John L., San Jose, Cal.
Bennett, H. F., Litchfield, Ill.
Bennett, R. M., Mound Valley, Kan.
Bentley, Edwin, Little Rock, Ark.
Besley, Frederic A., Chicago.
Bevan, Arthur Dean, Chicago.
Bigelow, Isaac S., Dubuque, Ia.
Biggs, M. O., Bowling Green, Mo.
Biles, Lee E., Augusta, Ark.
Billington, R. Wallace., Nashville, Tenn.
Binney, R. W., Granite City, Ill.
Binnie, J. F., Kansas City, Mo.
Bishop, William T., Harrisburg, Pa.
Bispham, W. N., Washington, D. C.
Bisson, W. C., Abingdon, Ill.
Black, Carl E., Jacksonville,, Ill.
Black, William Thomas, Memphis Tenn.
Blackburn, John H., Bowling Green, Ky.
Blain, Alexander W., Detroit.
Blake, C. D., Ellis, Kan.
Blake, John Bapst, Boston.
Blesh, A. L., Oklahoma City, Okla.
Bloodgood, Joseph L. Colt, Baltimore.
Bobb, B. A., Mitchell, S. Dak.
Bock, A. F., St. Louis.
Boehm, Joseph L., St. Louis.
Boor, Myron A., Terre Haute, Ind.
Borck, Edw., St. Louis.
Bosher, Lewis C., Richmond, Va.
Bottomley, John T., Boston.
Boulware, T. C., Butler, Mo.
Bounds, Edward H., Hannibal, Mo.
Bourn, John J., Hannibal, Mo.
Bowen, A. B., Maquoketa, Iowa.
Bowers, Charles E., Wichita, Kan.
Bowers, L. G., Dayton, O.
Boyd, D. T., Ector, Tex.
Boyd, Frank, Paducah, Ky.
Boyle, G. A., Enid, Okla.
Braasch, W. F., Rochester, Minn.
Braecklein, W. A., Higginsville, Mo.
Brandau, John W., Clarksville, Tenn.
Bray, Charles W., Biwabik, Minn.
Bremerman, Lewis Wine, Chicago.
Bromberg, Perry, Nashville, Tenn.
Brooks, John G., Paducah, Ky.
Broome, G. Wiley, St. Louis.
Brouner, Walter Brooks, New York.
Brown, Edward M., Chicago.
Brown F. H., Billings, Mo.
Brown, John Young, St. Louis.
Bruce, W. W., Casey, Ill.
Bryan, T. A., Mattoon, Ill.
Bryan, Thomas F., Dublin, Tex.
Buck, Ulysses G., Rothville, Mo.
Buckmaster, Frank, Effingham, Ill.
Bunce, Philip D., Hartford, Conn.
Bunch, Rodney J., St. Louis.
Burge, A. J., Iowa City, Ia.
Burford, C. E., St. Louis.
Burke, John P., California, Mo.
Burns, Robert J., St. Louis.
Burrows, T. W., Ottawa, Ill.
Burry, James, Chicago.
Busby, Charles D., Brooklyn, Ia.
Buser, John R., Mesala, Minn.
Buswell, C. A., Chicago.
Byrne, John I., St. Joseph, Mo.
Cabot, Hugh, Boston.
Cadwell, Victor, Poplar Bluff, Mo.
Cahill, L. L., Springer, N. Mex.
Calbreath, C. B., Lineville, Iowa.
Cale, George W., Jr., St. Louis.
Calkins, Irving R., Springfield, Mass.
Campbell, A. J., Syracuse, N. Y.
Campbell, O. Beverly, St. Joseph, Mo.
Campbell, R. L., East St. Louis, Ill.
Cantrell, C. E., Greenville, Tex.
Cargile, Charles H., Bentonville, Ark.
Carlaw, C. M., Minneapolis.
Carmany, Harry S., Philadelphia.
Carriere, V. A., Litchfield, Ill.
Carson, George T., Chatsworth, Ill.
Carson, N. B., St. Louis.
Carter, W. J., Mattoon, Ill.
Casper, M., Louisville, Ky.
Castle, Stanley, Springfield, Ill.
Chase, Ira Carlton, Fort Worth, Tex.
Chassaignac, Charles, New Orleans.
Chenoweth, L. C., Webb City, Mo.
Cherry, T. Ewing, Cowden, Ill.
Chesire, Matt U., Marshalltown, Ia.
Cheyne, Walter, Sumter, S. C.
Childress, M., Oskaloosa, Ia.
Childs, Samuel B., Denver.
Chilton, James C., Hannibal, Mo.
Chowning, Thomas, Hannibal, Mo.
Christie, G. R., Long Prairie, Minn.
Christie, R. J., Quincy, Ill.
Chute, Arthur L., Boston.
Clack, J. M., Rockwood, Tenn.
Clapper, W. L., St. Louis.
Clarke, B. W., St. Louis.
Clark, Dwight, Evanston, Ill.
Clarke, James Fred, Fairfield, Ia.
Clark, Stanley A., South Bend, Ind.
Clay, A. J., Hoopeston, Ill.
Clemons, E. Jay, Aberdeen, S. Dak.
Cline, C. M., Idaho Falls, Ida.
Clopton, Malvern B., St. Louis.
Coffey, R. C., Portland, Ore.
Cokenower, James W., Des Moines, Ia.
Colbert, John William, Albuquerque, N. Mex.
Colcord, A. W., Clairton, Pa.
Cole, Paul F., Steffenville, Mo.
Coleman, J. E., Canton, Ill.
Collins, Clifford N., Peoria, Ill.
Colt, John D., Litchfield, Ill.
Combs, George W., Indianapolis.
Comstock, A. E., St. Paul, Minn.
Condon, A. P., Omaha, Neb.
Conley, T. J., Chicago.
Connell, F. Gregory, Oshkosh, Wis.
Conner, Milton C., Middletown, N. Y.
Conway, W. Q., Tulsa, Okla.
Cook, George J., Indianapolis.
Cooke, A. B., Nashville, Tenn.
Coon, W. F., Caney, Kan.
Copeland, Charles C., North Madison, Ind.
Corbus, B. C., Chicago.
Cordier, A. H., Kansas City, Mo.
Cottam, G. G., Rock Rapids, Ia.
Coulter, John H., Summitville, Ia.
Cowen, Lewis C., Rising Sun, Ind.
Cox, Allen E., Helena, Ark.
Cox, David A., Howell, Ind.
Cox, Edgar, Kokomo, Ind.
Cram, F. W., Sheldon, Ia.
Crawford, W. W., Hattiesburg, Miss.
Cremer, M. H., Red Wing, Minn.
Crile, G. W., Cleveland.
Crisler, Carlton G., Cincinnati.
Crisler, J. A., Memphis, Tenn.
Crooks, Jere L., Jackson, Tenn.
Crosby, I. F., Stuart, Ia.
Crowley, D. D., Oakland, Cal.
Cubbins, William R., Chicago.
Culbertson, N. W., Massillon, O.
Cullen, Thomas S., Baltimore.
Cunningham, W. M., Corona, Ala.
Cuppaidge, G. O., Moberly, Mo.
Curtis, Arthur H., Chicago.
Dale, George L. A., Chicago.
Dalton, H. C., St. Louis.
Danzis, Mat, Newark, N. J.
Darling, Cyrenus G., Ann Arbor, Mich.
Darrow, Daniel C., Moorehead, Minn.
Daugherty, C. A., South Bend, Ind.
Davey, Benten M., Lansing, Mich.
David, V. C., Chicago.
Davidson, W. P., Sullivan, Ill.
Davis, B. B., Omaha, Neb.
Davis, Frank L., St. Louis.
Davis, George G., Chicago.
Davis, John B., Denver.
Davison, Charles, Chicago.
Deal, Don W., Springfield, Ill.
Dean, John McII., St. Louis.
Deaver, H. C., Philadelphia.
Deaver, John B., Philadelphia.
Deering, Albert B., Boone, Ia.
Deutsch, William S., St. Louis.
Dick, Andrew J., Watertown, N. Y.
Dicken, William E., Oklahoma City, Okla.
Dickinson, G. K., Jersey City, N. J.
Dickson, Paul L., Paragould, Ark.
Dillman, J. V., Louisville, Ill.
Dissinger, Hiram, Canal Fulton, O.
Dixon, Charles H., St. Louis.
Dodds, E. F., Missoula, Mont.
Dodds, J. C., Champaign, Ill.
Dodson, J. E., Jr., Vernon, Tex.
Doege, Karl, Mansfield, Wis.
Donaldson, Walter F., Pittsburg, Pa.
Donkle, L. B., Chicago.
Donnelly, James, Toledo, O.
Doolittle, H. M., Dallas, Tex.
Dorr, E. E., Des Moines, Ia.
Doty, C. M., Mason, Ill.
Downing, W. L., Moulton, Ia.
Doyle, John M., St. Joseph, Mo.
Doyle, William J., St. Louis.
Dreisbach, Norman, Minneapolis.
Dudley, Clifton R., St. Louis.
Dugan, R. C., Eyota, Minn.
Dunavant, Buford N., Memphis, Tenn.
Duncan, James A., Toledo, O.
Duncan, W. P., Jacksonville, Ill.
Dunham, Frank, Robinson, Ill.
Dunlop, H. E., Canton, Mo.
Dunsmoor, F. A., Minneapolis.
Dupuy, Charles M., Riley, Ind.
Duringer, W. A., Fort Worth, Tex.
Dutzi, August, St. Louis.
Earhart, T. W., Mulberry, Ind
Earle, Curran B., Greenville, S. C.
Eberlein, E. W., St. Louis.
Eckelman, Metius M., Elkhart, Ind.
Edmonson, George S., Clinton, Ill.
Edmunds, Page, Baltimore.
Ehresmann, J. J., Carrollton, Ill.
Eisendrath, Daniel N., Chicago.
Eitel, G. G., Minneapolis.
Elam, W. T., St. Joseph, Mo.
Elbrecht, O. H., St. Louis.
Elkins, W. H., Crystal City, Mo.
Ely, Leonard W., New York.
Engelbrectson, Ferd, Chicago.
English, C. H., Fort Wayne, Ind.
Epler, Crum, Pueblo, Colo.
Epperson, J. C., Kansas, Ill.
Epstein, Meyer J., St. Louis.
Eschbach, H. C., Albia, Ia.
Eskey, Leonard, Wheeling, W. Va.
Eskridge, Belle C., Houston, Tex.
Evans, George B., Dayton, Ohio.
Evans, John L., Wichita, Kan.

Evans, O. E., Gowrie, Ia.
Ewing, F. W., Terral, Okla.
Fairbrother, H. C., East St. Louis, Ill.
Fairchild, D. S., Clinton, Ia.
Fall, C. P., Beatrice, Neb.
Farr, Robert Emmett, Minneapolis.
Fay, Oliver J., Des Moines, Ia.
Fell, George Edward, Buffalo, N. Y.
Ferguson, Alex. Hugh, Chicago.
Ferguson, E. C., Edwardsville, Ill.
Ferguson, Robert Henry, East Orange, N. J.
Ferguson, Wilson J., Sedalia, Mo.
Finney, W. H., Clintonvile, Wis.
Fisher, Elbert E., Salem, Ore.
Fisher, Y. L., Mount Vernon, O.
Fisher, Waldo, Alton, Ill.
Fite, Francis B., Muskogee, Okla.
Fitts, Alston, Tuscaloosa, Ala.
Fitzpatrick, D. F., Iowa City, Ia.
Fitzpatrick, M. W., Decatur, Ill.
Fochtman, F. W., Cumberland, Md.
Ford, J. H., Indianapolis.
Forney, Charles D., Wichita, Kan.
Fortner, Benj. F., Springfield, Ill.
Foster, J. P., Lacrosse, Mo.
Fowler, J. V., Chicago, Ill.
Fox, Frank E., Fulton, N. Y.
Fox, Ralph D., Bloomington, Ill.
Fox, Sylvester D., St. Louis, Mo.
Franke, W. E., Newton, Ill.
Frankenthal, Maurice A., St. Louis.
Freund, Newton M., St. Louis.
Frick, W. J., Kansas City, Mo.
Friedlaender, Bernhard, Sebewaing, Mich.
Fulgham, J. H., East St. Louis, Ill.
Fuller, T. E., Texarkana, Tex.
Fuller, William, Chicago.
Funkhouser, Robert M., St. Louis.
Gage, Homer, Worcester, Mass.
Gallwey, John, San Francisco.
Gant, Samuel G., New York.
Garrison, C. W., Fort Smith, Ark.
Garwood, A., New Braunfels, Tex.
Gaub, Otto C., Pittsburg, Pa.
Gavin, S. E., Fond du Lac, Wis.
Gettys, Henry B., St. Louis.
Giannini, B. E., Coalmont, Ky.
Gibson, L. P., Little Rock, Ark.
Gile, E. E., Shawnee, Okla.
Gillette, Arthur J., St. Paul, Minn.
Gillette, William J., Toledo, O.
Gillis, Frank P., Du Quoin, Ill.
Gilmore, W. H., Mount Vernon, Ill.
Glennon, William P., St. Louis.
Glidden, Stephen C., Danville, Ill.
Godfrey, Henry T., Galena, Ill.
Goode, Rhett, Mobile, Ala.
Goodloe, Hart, Canon City, Colo.
Goodrich, R. H., Chamberlain, S. Dak.
Gorin, M. George, St. Louis.
Graessle, George G., Seymour, Ind.
Graham, Alois B., Indianapolis.
Graham, David W., Chicago.
Graham, J. A., Chicago.
Grant, W. W., Denver.
Graul, Robert E., St. Louis.
Graves, Spencer C., St. Louis.
Gray, W. L., Champaign, Ill.
Grayston, Wallace S., Huntington, *Ind.*
Greaves, Walter W., La Salle, Ill.
Green, Frederick R., Chicago.
Green, G. W., Chicago.
Greensfelder, Louis A., Chicago.
Griffin, Fred, Mexico, Mo.
Griffin, John Morse, Sulphur Springs, Ark.
Griffith, D. M., Owensboro, Ky.
Griffith, J. D., Kansas City, Mo.
Grim, E. C., Kirksville, Mo.
Grimm, P. G., Edgar, Neb.
Grinstead, W. F., Cairo, Ill.
Guerry, Le Grand, Columbia, S. C.
Guhman, Charles N., St. Louis.
Guhman, John O., St. Louis.
Gundlach, Arthur, St. Louis.
Guthrie, George W., Wilkes-Barre, Pa.
Guthrie, W. A., Franklin, Ky.
Guthrie, William E., Bloomington, Ill.
Hacker, Christian G., Albany, N. Y.
Haeberlin, John B., Chicago.
Haecker, L. E., Hampton, Ia.
Haessly, S. B., Red Wing, Minn.
Haffner, E. L., Hermann, Mo.
Hagerty, Thomas, East St. Louis, Ill.
Hagerty, Meade E., St. Louis.
Haggard, W. D., Nashville, Tenn.
Hagner, Francis R., Washington, D. C.
Hahn, L. A., Guthrie, Okla.
Haines, W. D., Cincinnati.
Hairgrove, J. W., Jacksonville, Ill.
Hall, Andy, Mount Vernon, Ill.
Hall, Thomas H., Gillespie, Ill.
Hallam, J. C., St. Louis.
Hamel, A. H., St. Louis.
Hamilton, J. W., Mount Vernon, Ill.
Hamilton, S. S., Punxsutawney, Pa.
Hamilton, W. D., Columbus, O.
Hamlin, Oliver D., Oakland, Cal.
Hanes, Granville, S., Louisville, Ky.
Haning, H. C., Dayton, O.
Hanna, Robert A., Peoria, Ill.
Harpole, Charles B., Evansville, Ind.
Harrell, H. J., St. Louis.
Harrelson, N. O., Kansas City, Mo.
Harris, Charles Grant, Festus, Mo.
Harris, Charles H., Fort Worth, Tex.
Harris, H. W., Winchester, Mo.
Harris, M. L., Chicago.
Harris, Rufus C., St. Louis.
Harry, Charles Rees, Stockton, Cal.
Harsha, William M., Chicago.
Hawkins, A. H., Cumberland, Md.
Hawkins, G. W., Salisbury, Mo.
Hawkins, John A., Pittsburg, Pa.
Hayden, A. M., Evansville, Ind.
Hayden, John Gardner, Kansas City, Mo.
Hayes, D. J., Milwaukee, Wis.
Hayes, Harry M., Peoria, Ill.
Heath, Horace, Denver.
Hebb, Arthur, Baltimore.
Hector, William S., Chicago.
Heddens, James Weir, St. Joseph, Mo.
Hederick, Austin R., Boonville, Ark.
Hedges, Harry Slicer, Brunswick, Md.
Heflin, H. Nelson, Kewanee, Ill.
Heilman, E. S., Ida Grove, Iowa.
Henderson, E. E., Chicago.
Hendon, George A., Louisville, Ky.
Hendrick, J. A., Shreveport, La.
Hennerich, Joseph P., St. Louis.
Hepburn, Thomas N., Hartford, Conn.
Herbst, Robert H., Chicago.
Hertel, Garfield E., Belleville, Ill.
Hertzler, Arthur E., Kansas City, Mo.
Hewitt, Walter R., St. Louis.
Hicks, H. M., Amsterdam, N. Y.
Highsmith, J. F., Fayetteville, N. C.
Hilgard, George E., Belleville, Ill.
Hill, James C., Newton, Iowa.
Hill, L. H., Greenway, Ark.
Hill, Roland, St. Louis.
Hill, T. Chittenden, Boston.
Hirschman, Louis J., Detroit.
Hoberecht, C. A., St. Louis.
Hobson, J. A., Flushing, Ohio.
Hocker, Robert T., Arlington, Ky.
Hodgson, Fred G., Atlanta, Ga.
Hoffman, Gideon H., Kewanee, Ill.
Hoffmann, Philip H., St. Louis.
Hogan, Edgar P., Birmingham, Ala.
Hogeboom, R. W., Springfield, Mo.
Hollowbush, J. R., Rock Island, Ill.
Holman, Carl J., Mankato, Minn.
Holt, Charles S., Fort Smith, Ark.
Hoover, Delbert E., Warren, Ohio.
Hopkins, John R., Denver.
Hopkins, Thomas A., St. Louis.
Horsley, J. Shelton, Richmond, Va.
Horst, Otto Carl, St. Louis.
Horwitz, Alexander E., St. Louis.
Hough, Frank S., Sibley, Iowa.
Hough, Garry de N., New Bedford, Mass.
House, A. F., Cleveland.
Howard, A. Philo, Houston, Tex.
Howard, F. A., Slater, Mo.
Howells, James O., Bridgeport, Ohio.
Howton, Oleander, Osceola, Ark.
Hubbell, William B., Elyria, Ohio.
Huffman, Logan H., Hobart, Okla.
Hughes, J. C., Walnut Ridge, Ark.
Hulen, F. P., Pond Creek, Okla.
Hume, Arthur M., Owosso, Mich.
Humiston, Ray, Worthington, Minn.
Hungate, James B., Weeping Water, Neb.
Hupp, Frank Le Moine, Wheeling, W. Va.
Hutto, O. D., Kokomo, Ind.
Hyndman, Charles E., St. Louis.
Irwin, Cyrus H., Sesser, Ill.
Jackson, Jabez N., Kansas City, Mo.
Jackson, Ralph W., Fall River, Mass.
Jaeger, Charles, Denver.
James, Charles S., Centerville, Iowa.
James, R. M., Joplin, Mo.
Jameson, C. H., St. Louis.
Janes, Vincil, Cameron, Mo.
Jarvis, E. T., Macomb, Ill.
Jayne, W. A., Denver.
Jelks, John, Memphis, Tenn.
Jepson, W., Sioux City, Iowa.
Jenner, Albert George, Milwaukee.
Jerome, J. N., Evansville, Ind.
Jerome, M. A., Toledo, Ohio.
Joesting, F. C., Alton, Ill.
Johnson, Arthur H., Portland, Ore.
Johnson E. Horace, St. Louis.
Johnson, G. C., Evansville, Ind.
Johnson, H. M., St. Louis.
Johnson Wm. D., Batavia, N. Y.
Jonas, A. F., Omaha, Neb.
Jonas, Ernst, St. Louis.
Jones, C. C., Comfort, Texas.
Jones, D. N., Gaylord, Minn.
Jones, J. L., Jonesburg, Mo.
Jones, W. D., Devils Lake, N. Dak.
Jordan, W. M., Birmingham, Ala.
Judd, E. S., Rochester, Minn.
Jurgens, H. J., Edina, Mo.
Kahler, J. Frank, Canton, Ohio.
Kahn, Lee, Louisville, Ky.
Kalbaugh, Alex. B., Westernport, Md.
Kalbaugh, Z. T., Piedmont, W. Va.
Kane, R. Emmet, St. Louis.
Kee, A. L., Cambridge, Neb.
Keith, F. L., Flat River, Mo.
Keller, John G., Toledo, Ohio.
Keller, Lester, Ironton, Ohio.
Kelleher, T. F., Des Moines, Iowa.
Kelly, William D., St. Paul, Minn.
Kennedy, T. C., Indianapolis, Ind.
Kennedy, Walter C., St. Louis.
Kerr, Archibald A., Salt Lake City.
Kern, Albert G., Knoxville, Tenn.
Kerr, Norman, Chicago.
Kessler, Samuel Fritts, St. Joseph, Mo.
Ketchersid, J. W., Hope, Kans.
Kilburn, Frank, Presque Isle, Me.
King, R. H., Granite City, Ill.
Kirby, Leonidas, Harrison, Ark.
Kreimer, Walter C. G., St. Louis.
Kirkpatrick, H. E., Dalton, Mo.
Kumse, G. W., Frazee, Minn.
Kiser, Chas. R., Madison, Ill.
Kiefler, Alonzo R., St. Louis, Mo.
Kleinhans, M. A., Milwaukee, Wis.
Klinefelter, M. L., St. Louis.
Knewitz, O. W., E. St. Louis, Ill.
Knott, Van Buren, Sioux City, Iowa.
Koenig, George W., St. Louis.
Kofron, Joseph V., Cleveland.
Korsell, C. F. P., Chicago.
Kramps, A. F., Chicago.
Kreider, G. N., Springfield, Ill.
Kreissl, F., Chicago.
Krouse, Louis J., Cincinnati.
Kuhn, B. F., Elkhart, Ind.
Kurtz, R. L., Neoga, Ill.
Kurtzeborn, E. E., St. Louis.
La Force, W. B., Keokuk, Iowa.
Lambeth, G. S., Moran, Ky.
Larew, John T., St. Louis.
Larimore, Frank C., Mount Vernon.
Latham, H. W., Latham, Mo.
Latta, Samuel W., Philadelphia.
Lawler, T. A., Taylorville, Ill.
Lawrence, Wm. S., St. Louis.
Laws, William V., Hot Springs, Ark.
Lawrence, W. B., Batesville, Ark.
Leahy, Maurice, Tiffin, O.
Lee, Jr., Elbert J., St. Louis.
Leighton, William Elston, St. Louis.
Lemon, Charles H., Milwaukee, Wis.
Lescher, Edwin R., Mt. Carmel, Ill.
Lesemann, Frederick J., Chicago.
Lespinasse, Victor D., Chicago.
Lessenger, W. S., Mt. Pleasant, Iowa.
Lewin, S., Chicago.
Lewis, Bransford, St. Louis.
Lewis, C. B., St. Cloud, Minn.
Lewis, Charles F., Austin, Minn.
Lewis, Dean, Chicago.
Lewis Robt. C. M., Marion, O.
Lightfoot, J. A., Texarkana, Ark.
Link, J. Joseph, St. Louis.
Littig, L. W., Iowa City, Iowa.
Little, J. Warren, Minneapolis.
Lloyd, Samuel, New York.
Lockhart, Chas. H., Witt, Ill.
Lockwood, Chas. D., Pasadena, Cal.
Long, Dock, Duncan, Okla.
Long, John W., Greensboro, N. C.
Lord, John Prentiss, Omaha.
Lowman, J. B., Johnstown, Pa.
Lucid, M. M., Cortland, N. Y.
Luckey, H. R., Seymour, Ind.
Lund, Herluf G., St. Louis.
Luttrell, Walter, Knoxville, Tenn.
Lutz, Frank J., St. Louis.
Lydston, G. Frank, Chicago.
Lynch, Jerome M., New York.
Lyon, Hartwell N., St. Louis.
MacDonald, Jr., Jos., East Orange, N. J.
Macdonald, John W., St. Louis.
MacGowan, Granville, Los Angeles.
MacKenzie, Robert Gordon, Ann Arbor, Mich.
MacLeod, Geo. D., Cleveland.
Macrae, Jr., Donald, Council Bluffs, Iowa.
Madill, Grant, Ogdensburg, N. Y.
Maes, Urban, New Orleans.
Mahoney, Stephen A., Holyoke, Mass.
Mankopf, B. E., New Haven, Mo.
Mann, Arthur T., Minneapolis.
Manson, F. M., Worthington, Minn.
Marcy, Jr., Henry O., Boston.
Markley, P. L., Rockford, Ill.
Marks, Heine, St. Louis.
Marsh, F. L., Mount Pleasant, Pa.
Marshall, Frank B., Muskegon, Mich.
Marshall, J. A., Pontiac, Ill.
Martin Collier F., Philadelphia.
Martin, Jos. D., New Orleans, La.
Martin, L. H., Hattiesburg, Miss.
Marxmiller, Harry G., Los Angeles, Cal.
Mason, Francis M., Rossville, Ill.
Mason, Will, Murray, Ky.
Masters, George B., Rockwood, Pa.
Mathews, Joseph M., Louisville, Ky.
Matlock, Granville T., Wilkes-Barre, Pa.
Mattison, Fitch C. E., Pasadena, Cal.
Mattison, James A., Marion, Ind.
Maurer, A. A., LaCrosse, Wis.
Maury, J. W. Draper, New York.
Maxedon, Thos. H., Vincennes, Ind.
May, Albert, Crothersville, Ind.
Mayo, C. H., Rochester, Minn.
Mayo, William J., Rochester, Minn.
McAmis, L. C., St. Louis.
McArthur, Arthur W., Kansas City, Mo.
McCabe, W. M., Nashville, Tenn.
McCandless, W. A., St. Louis.
McCarty, T. L., Dodge City, Kans.
McChord, Robt. C., Lebanon, Ky.
McCall, H. B., Kansas City, Mo.
McClendon, A. A., Marianna, Ark.
McClintock, John C., Topeka, Kan.
McClure, F. E., Detroit.
McCoy Ambrose, Jackson, Tenn.
McCoy, G. C., St. Louis, Mo.
McCoy, P. Y., Evansville, Ind.
McCuistion, L. P., Paris, Texas.
McCully, Chas. H., Logansport, Ind.
McDonald, J. W., Fairmont, W. Va.
McElhaney, Clarence W., Greenville, Pa.
McGill, W. F., St. Joseph, Mo.
McGraw, Henry R., Denver, Colo.
McKain, C. H., Vicksburg, Mich.
McKay, H. S., St. Louis, Mo.
McKee, J. F., Johnston City, Ill.
McKim, H. W., LaBelle, Mo.
McKinney, F. J., Gifford, Ill.
McKinnie, L. H., Colorado Springs, Colo.
McKitrick, Austin S., Kenton, O.
McLaren, J. L., Oakland, Cal.
McLaughlin, A. W., Chicago, Ill.
McLain, W. H., Wheeling, W. Va.
McLean, Angus, Detroit.
McLandress, J. A., St. Charles, Mich.
McMullen, Charles G., Schenectady, N. Y.
McNamara, W. E., Trimountain, Mich.
McNees, A. Jackson, Clinton, Mo.
McNemer, G. H., Cairo, Ill.
McOscar, Edward J., Ft. Wayne, Ind.
McQuillan, Albert B., East St. Louis, Ill.
McRae, Floyd W., Atlanta, Ga.
Means, W. J., Columbus, O.
Mecray, Paul M., Camden, N. J.
Meisenbach, A. Edward, St. Louis.
Meisenbach, A. H., St. Louis.
Menestrina, Jules F., St. Louis.
Meyer, Willy, New York, N. Y.
Millard, Homer A., Minonk, Ill.
Miller, J. Estill, Pittsfield, Ill.
Miller, J. F., Palmer, Ill.
Miller, R. B., Hinton, W. Va.
Miller, S. H., Joplin, Mo.
Miller, S. M., Peoria, Ill.
Miller, S. R., Knoxville, Tenn.
Mills, W. P., Missoula, Mont.
Milton, Joseph L., Oakland, Cal.
Minassian, H. A., Des Moines, Iowa.
Mitchell, A. R., Lincoln, Nebr.
Mitchell, H. C., Carbondale, Ill.
Moe, Anton J., Heron Lake, Minn.
Molz, Chas., Murphysboro, Ill.
Monahan, J. J., Encampment, Wyo.
Montgomery, C. C., Lincoln, Ill.
Montgomery, J. T., Charleston, Ill.
Moore, H. A., Indianapolis.
Moore, James E., Minneapolis.
Moore, J. G., Mexico, Mo.
Moore, John T., Houston, Texas.
Moore, J. W., St. Louis.
Moore, M. G., Vincennes, Ind.
Moore, R. W., Arcadia, Kans.
Moore, Sherwood, St. Louis.
Moore, Wm. L., Truxton, Mo.
Moots, Charles W., Toledo, O.
More, C. W., Eveleth, Minn.
Morehouse, H., Danville, Ill.
Morris, C. C., St. Louis.
Morrow, Nelson C., Altamont, Kans.
Morrow, W. F., Kansas City, Mo.
Morton, A. W., San Francisco.
Morton, Daniel, St. Joseph, Mo.
Moss, W. F., Maineville, Ohio.
Motter, Thomas Ira, Chicago.
Mudd, Harvey G., St. Louis.
Muir, D. T., Alden, Kans.
Mumford, James G., Boston.
Munger, L. H., Winona, Minn.
Munn, L. H., Topeka, Kans.
Munsch, A. P., St. Louis, Mo.
Murdock, Jr., S., Sabetha, Kans.
Murdy, Robert L., Aberdeen, S. Dak.
Murfree, James B., Murfreesboro, Tenn.
Murphy, E. S., Dixon, Ill.
Murphy, John B., Chicago.
Murray, Dwight H., Syracuse, N. Y.
Murray, S. A., Holden, Mo.
Musselman, J. T., Paris, Ill.
Myer, Max W., St. Louis.
Myerdick, Albert H., St. Louis, Mo.
Nash, Geo. A., Maryville, Mo.

Nave, Henry H., Kansas City, Kan.
Neal, J. R., Springfield, Ill.
Neel, John M., Dallas, Tex.
Neer, E. D., St. Louis.
Nelken, A., New Orleans.
Neville, Eugene J., St. Louis.
Neville, F. A., Meredosia, Ill.
Newcomer, Irving, Petersburg, Ill.
Newman, Samuel E., St. Louis.
Nichols, Schuyler, Herington, Kan.
Nicholson, C. M., St. Louis.
Nicholson, Joseph L., Camden, N. J.
Niedringhaus, Ralph E., Granite City, Ill.
Nietert, H. L., St. Louis.
Nifong, Frank G., Columbia, Mo.
Nihiser, W. M., Hagerstown, Md.
Noble, *Robert A., Bloomington, Ill.*
Noome, A. J., Wheeling, W. Va.
North, *Emmett P.*, St. Louis.
Norton, M. M., Sunnyside, Ark.
Noyes, A. A., Mason City, Iowa.
Nuzum, Thomas Walter, Janesville, Wis.
Oates, T. K., Martinsburg, W. Va.
Oatman, Louis J., St. Louis.
Ochsner, A. J., Chicago.
Ochsner, Edward H., Chicago.
Oehler, E. F., St. Louis.
Ogden, Chester R., Clarksburg, W. Va.
O'Hara, Fred S., Springfield, Ill.
O'Keefe, John E., Waterloo, Iowa.
Oldham, J. E., Wichita, Kan.
Oliver, John Chadwick, Cincinnati.
Oliver, John H., Kewanee, Ill.
Oliver, John H., Indianapolis.
O'Neil, Richard F., Boston.
O'Reilly, James Archer, St. Louis.
Osborn, J. W., Des Moines, Iowa.
Otrich, G. Cleveland, Belleville, Ill.
Ottis, D. M., Springfield, Ill.
Outten, W. B., St. Louis.
Oven, T. P., Brookfield, Mo.
Owre, Oscar, Minneapolis.
Owsley, Paul O., Evanston, Ill.
Page, Hugh N., University, Miss.
Palmer, W. L., Albert Lea, Minn.
Park, Geo. M., St. Louis.
Parmeter, Rolland, Detroit, Mich.
Parrish, J. C., Vandalia, Mo.
Parrish, M. P., Decatur, Ill.
Parsons, H. J., Mansfield, La.
Paschal, Frank, San Antonio, Tex.
Patterson, John, Frankfort, Ky.
Paul, Thomas M., St. Joseph, Mo.
Paxon, C. E., Hannibal, Mo.
Payne, Geo. W., Bardwell, Ky.
Pearse, Herman E., Kansas City, Mo.
Pedersen, James, New York.
Pedersen, Victor C., New York.
Pelton, O. L., Elgin, Ill.
Pennington, J. R., Chicago.
Percy, J. F., Galesburg, Ill.
Peters, R. A., Tipton, Iowa.
Pettit, J. A., Portland, Ore.
Peyton, David C., Jeffersonville, Ind.
Phelan, J. R., Oklahoma City, Okla.
Phillips, Chas. E., Canal Zone.
Phillips, G. M., St. Louis.
Pierce, F. E., Chicago.
Pierce, Harry M., St. Louis.
Pitzman, Marsh, St. Louis.
Plondke, F. J., St. Paul, Minn.
Plummer, H. S., Rochester, Minn.
Pollmann, L. P., St. Louis.
Pollmann, Walter H., St. Louis.
Pomerene, H. P., Canton, Ohio.
Pond, Alanson M., Dubuque, Iowa.
Poole, William A., Henderson, Ky.
Poorman, Bert A., Kansas City, Mo.
Porter, Allen L., Kansas City, Mo.
Porter, Miles F., Ft. Wayne, Ind.
Poston, H. P., Bonne Terre, Mo.
Potter, G. E., Detroit, Mich.
Potter, T. E., St. Joseph, Mo.
Potter, W. W., Westbourne, Tenn.
Powell, E. Willard, Omaha, Neb.
Pratt, Chas. E., Wheeling, W. Va.
Prince, Howard L., Byron, N. Y.
Quain, E. P., Bismarck, N. Dak.
Rabenau, W. J., Fordland, Mo.
Rainey, Geo. S., Salem, Ill.
Ramsey, Douglas C., Mt. Vernon, Ind.
Ramsay, John P., Vincennes, Ind.
Rand, Howard F., St. Helena, Cal.
Rassieur, Louis, St. Louis.
Ravenswaar, C. H. van, Boonville, Mo.
Rawls, J. E., Suffolk, Va.
Reber, L. W., St. Louis, Mo.
Reder, F., St. Louis, Mo.
Reed, Charles A. L., Cincinnati.
Reed, Elizabeth Bass, St. Louis.
Reed, Guy P., Davis City, Iowa.
Reed, Robert J., Wheeling, W. Va.
Rees, W. H., Pleasanton, Kan.
Reichmann, Max, Chicago.
Reineking, H., Milwaukee, Wis.
Rendleman, J. W., East St. *Louis, Ill.*
Renner, C. P., Belleville, Ill.
Reuss, *A. LeRoy, Belleville*, Ill.
Reves, William R., Alma, Ark.
Reynolds, C. W., Holton, Kan.
Rhodes, Walter, *Toledo*, Ill.
Rice, Spencer M., *Terre Haute, Ind.*
Rich, Charles O'Neill, Omaha, Neb.
Richardson, Maurice H., Boston.
Richardson, W. E., Slayton, Minn.
Richter, H. M., *Chicago.*
Riddell, John D., Enterprise, Kan.
Rietz, Paul C., Evansville, Ind.
Rigdon, R. L., San Francisco, Cal.
Rinedollar, U., *Mt. Carroll, Ill.*
Risdon, James Waldo, Leavenworth, Kan.
Risley, C. Howard, Cameron, Mo.
Robbins, Frederick, Detroit.
Robertson, W. M., St. Louis.
Robinson, Fred W., Sturgis, Mich.
Robinson, Samuel, Boston.
Rockafellow, John C., Des Moines, Iowa.
Rockey, A. P., Assumption, Ill.
Rogers, Cassius C., Chicago.
Rogers, Mack, Birmingham, Ala.
Roope, A. P., Columbus, Ind.
Rosenthal, Maurice I., Ft. Wayne, Ind.
Ross, Daniel, Denison, Tex.
Rothrock, M. W., Howell, Ind.
Royster, Hubert A., Raleigh, N. C.
Ruddell, G. W., St. Louis.
Ruffin, Kirkland, Norfolk, Va.
Runyan, J. P., Little Rock, Ark.
Runyan, J. R., Ada, Okla.
Russ, W. B., San Antonio, Tex.
Russell, C. W., Lamar, Colo.
Russler, Jacob J., St. Louis.
Rutledge, John E., Festus, Mo.
Ryan, Lawrence, Chicago.
Sadlier, James E., *Poughkeepsie*, N. Y.
Safford, W. G., Tarkio, Mo.
St. John, Hugh Roberts, Alton, Kan.
Sala, E. M., Rock Island, Ill.
Sample, C. H., Saginaw, *Mich.*
Sampson, F. E., Creston, Iowa.
Sanders, E. M., Nashville, Tenn.
Sanders, St. Elmo, Kansas City, Mo.
Sanders, W. H., Montgomery, Ala.
Sandperl, Harry, St. Louis.
Sarles, W. T., Sparta, Wis.
Sawyer, Alfred D., Fort Fairfield, Me.
Sayle, R. G., Milwaukee, Wis.
Schaefer, Charles N., Pittsburg, Pa.
Schaeffer, Chas. D., Allentown, Pa.
Scheele, M. H., St. Louis.
Scherck, Henry J., St. Louis.
Schery, Chas. Wm., St. Louis.
Schmauss, L. F., Alexandria, *Ind.*
Schmidt, Richard, Victoria, Mo.
Schoor, Edward, Garden City, Mo.
Schowengerdt, W. E., Champaign, Ill.
Schultz, G. B., Cape Girardeau, Mo.
Schurmeier, F. C., Elgin, Ill.
Schwab, B. C., Sapulpa, Okla.
Schweer, Theodore J., Beardstown, *Ill.*
Scott, Julien W., Venice, Ill.
Scott, R. G., Geneva, Ill.
Seba, John D., Bland, Mo.
Seelig, M. G., St. Louis.
Sellery, A. C., Long Beach, Cal.
Senn, Wm. N., Chicago.
Seviet, R., Richmond, Mo.
Shaff, J. N., Alton, *Ill.*
Shankland, James W., St. Louis.
Shannon, L. W., Hiawatha, Kan.
Shaw, Joseph, B., Trenton, N. J.
Sherk, Henry H., Pasadena, Cal.
Sherman, Harry M., San Francisco.
Sherwood, Marcel Wesley, Temple, Texas.
Shirley, W. M., Waterloo, Iowa.
Short, John L., Rolla, Mo.
Shutt, Cleveland H., St. Louis.
Shy, D. E., Knobnoster, Mo.
Siegel, John H., Collinsville, *Ill.*
Silver, David, Pittsburgh, Pa.
Silver, Harry, Middletown, Ohio.
Simpson, Albert Ross, Corning, Ark.
Simpson, *J.*, Morrisonville, Ill.
Simpson, Jesse P., Palmer, Ill.
Simpson, T. P., Beaver Falls, Pa.
Singer, Frederic, Pueblo, Colo.
Skinner, Edward Holman, *Kansas* City, Mo.
Slaughter, Chas. H. P., Philadelphia.
Slayden, John L., Dexter, Mo.
Sloan, Edwin *P.*, *Bloomington, Ill.*
Sloan, H. E., Cincinnati, O.
Sloan, Orville J., Neosho, Mo.
Small, A. B., Dallas, Tex.
Smedal, Greggar, La Crosse, Wis.
Smith, Albert, Parsons, Kan.
Smith, Clyn, Clovis, N. Mex.
Smith, *Carroll*, St. *Louis.*
Smith, C. A., Texarkana, Texas.
Smith, E. O., Cincinnati, Ohio.
Smith Franklin Buchanan, Frederick, Md.
Smith, Harvey S., East St. *Louis*, Ill.
Smith, James Walter, Hot Springs, Ark.
Smith, *Lorin W., Wabash*, Ind.
Smith, Oliver C., Hartford, *Conn.*
Smith, Ralph V., Guthrie, Okla.
Smith, W. F., Clarksville, Ark.
Smoot, J. B., Dallas, Texas.
Smrha, V. V., Milligan Neb.
Southern, Chas. T., Cincinnati.
Sparling, A. M., Sailor Springs, Ill.
[illegible] Kans.
Spencer, Floyd H., St. Joseph, Mo.
Spigler, Otto R., Terre Haute, Md.
Spilman, S. A., Ottumwa, Iowa.
Spitzley, Wm. A., *Detroit.*
Squier, J. Bentley, New York City.
Stamm, *M., Fremont*, O.
Stanton, R. F., East St. Louis, Ill.
Starkel, Chas. H., Belleville, Ill.
Stauffer, G. W., Akron, O.
Stauffer, William H., St. Louis.
Stealy, J. *H.*, Freeport, Ill.
Steele, A. *J.*, St. Louis.
Steele, D. A. K., *Chicago.*
Steely, J. B., Chattanooga, Tenn.
Steelsmith, Simon, Abilene, Kans.
Steely, George, *Danville*, Ill.
Steffenson, O. M., Chicago.
Stetson, H. G., Greenfield, Mass.
Stevens, A. B., Scranton, *Pa.*
Stevens, Chas. Dillon, St. Louis.
Stewart, Floyd, St. Louis.
Stewart, J. Clark, Minneapolis.
Stiehl, E. P., Floraville, Ill.
Stigers, P. Elwood, Hancock, Md.
Stokes, Arthur C., Omaha, Neb.
Stoner, A. P., Des Moines, Iowa.
Stratton, Chas. D., Rothville, Mo.
Straus, David C., Chicago.
Straus, D. Leon, St. Louis.
Stremmel, S. C., Macomb, Ill.
Strother, S. *P.*, Altus, Okla.
Sullivan, Arthur G., Madison, Wis.
Sullivan, E. A., Amboy, Ill.
Summa, Henry H., St. Louis.
Summers, A. T., Mattoon, Ill.
Summers, Edmund, Mattoon, Ill.
Summers, John E., Omaha. Neb.
Sumpter, Wm. D., Nashville, Tenn.
Suttner, C. N., *Walla Walla*, Wash.
Sutton, W. S., Kansas City, Kans.
Swartz, Thomas B., Chicago.
Sweetser, H. B., Minneapolis.
Swenson, Carl G., *Chicago.*
Syms, Parker, New York.
Tainter, Frank Joseph, St. Charles, Mo.
Tainter, L. K., Fredericksburg, Texas.
Talbott, E. F., Grinnell, Iowa.
Talbott, Hudson, St. Louis.
Talley, D. F., Birmingham, Ala.
Tanguary, J. H., St. Louis.
Taylor, A. *Miles*, San Francisco.
Temm, Louis N., St. Louis.
Terry, N. F., Springfield, *Mo.*
Thrailkill, E. H., Kansas City, Mo.
Thomas, Coughlin William, St. Louis.
Thomas, G. F., Peebles, O.
Thompson, Claude A., Muskogee, Mo.
Thompson, Solomon H., Kansas City, Kans.
Tinker, Martin B., Ithaca, N. Y.
Titterington, M. B., Jerseyville, *Ill.*
Todd, D. C., St. Louis.
Todd, L. A., St. Joseph, Mo.
Torrance, Loyal B., St. Louis.
Townsend, James Arthur, Union, Mo.
Townsend, Misner R., New York.
Townsend, Terry M., New York.
Trueheart, Marion, Sterling, Kans.
Tuckerman, J. E., Cleveland.
Tuholske, H., St. Louis.
Tull, G. A., Clay Center, Kan.
Tupper, P. Y., St. Louis.
Turner, R. L., Meridian, Miss.
Tuttle, H. H., Springfield, Ill.
Uran, Benjamin F., Kankakee, Ill.
Valentine, Julius John, New York.
Vanatta, H. B., *Lerna, Ill.*
Vance, A. J., Harrison, Ark.
Vanderveer, *Edgar A., Albany*, N. Y.
Vanderventer, Vivian H., Ishpeming, Mich.
Van Meter B. F., Lexington, Ky.
Varble, W. M., Jeffersonville, Ind.
Varner, G. W., Evansville, Ind.
Vasterling, *Paul F.*, St. Louis.
Vaughan, John W., St. Louis.
Vaughn, J. Walter, Detroit.
Verne, V. E., Moorhead, Minn.
Viehe, Carl G., *Evansville, Ind.*
Vinyard, Paul, St. Louis.
Vosburgh, C. A., St. Louis.
Voyer, Emile Oswald, Minneapolis.
Waechter, Adolph, New York.
Waldner, John Louis, Parkston, S. Dak.
Walker, Alonzo B., Canton, Ohio.
Walker Henry O., Detroit.
Walker, *Robert* A., Menominee, Mich.
Walker, *Robert S., Toledo*, O.
Wall, A. S., Champaign, Ill.
Wall, Jr. Otto Augustus, St. Louis.
Wallace, C. H., St. Joseph, Mo.
Walters, Chas. E., Dexter, Mo.
Warfield, Ridgely B., Baltimore, Md.
Warner, Frank, Columbus, O.
Warren, L. P., Wichita, Kans.
Waterworth, S. J., *Clearfield*, Pa.
Wathen, J. R., Louisville, Ky.
Wathen, William H., Louisville, Ky.
Watson, F. W., Union City, Tenn.
Watson, J. B., Litchfield, Ill.
Weber, Frank J., Olney, Ill.
Weber J. C., Olney, Ill.
Weems, Marcus A., Columbia, Texas.
Weems, Jr., M. L., Brazoria, Texas.
Weidner, M. R., Dalton, Ill.
Weis, Edmund W., Ottawa, Ill.
Wenger, E. S., Lincoln, Nebr.
Wenger, Oliver C., St. Louis.
Werden Van, W., Des Moines, Iowa.
West, Levin, Brunswick, Md.
Wheeler, Carl Lewis, Lexington, Ky.
Wheeler, Herbert, Grant Park, Ill.
Whitacre, Horace J., Cincinnati, O.
White Herman A., Clinton, Iowa.
White, R. R., Temple, Texas.
White, Wilford W., Ravenna, O.
Whitmore, W. S., Mt. Sidney, Va.
Whitten, H. H., Peoria, Ill.
Wiatt, William S., East St. Louis, Ill.
Widner, A. W., Newtown, Mo.
Wiedemann, Frank E., Terre Haute, Ind.
Wiggins, J. L., East St. Louis, Ill.
Wilhelmj, Charles F., East St. Louis, Ill.
Will, Arthur A., Oklahoma, Okla.
Will, S. J., Jefferson Barracks, Mo.
Williams, B. G., Oskaloosa, Iowa.
Williams, E. C., Collinsville, Texas.
Williams, Fred S., Wichita, Kans.
Williams, T. J., Hiteman, Iowa.
Williams, W. W., *Quincy, Ill.*
Williamson, G. L., Danville, Ill.
Willis, James C., Shreveport, La.
Willson, George C., Nevada, Mo.
Wilson, *John B.*, Ottumwa, Iowa.
Wilson Jefferson H., Beaver, Pa.
Wilson Robert Edward, St. Louis.
Wilson, S. W., *Lindsay*, Okla.
Winslow, Randolph, Baltimore, Md.
Wishard, Wm. N., Indianapolis, Ind.
Wisner, W. O., Spokane, Wash.
Witherspoon, T. C., Butte, Mont.
Wolbarst, *Abraham Leo, New York.*
Wolfe, S. N., Wilkes-Barre, Pa.
Wood, E. A., Sedalia, Mo.
Wood, H. D., Fayetteville, Ark.
Wood, W. *C., Decatur*, Ill.
Woods, Edmund F., Janesville, Wis.
Woods, William P., Evansville, Ind.
Woodside, E. E., Johnston City, Ill.
Woodward, *Wm.* C., Washington. D. C.
Woolford, J. S. B., Chattanooga, Tenn.
Woolsey, R. A., St. Louis, Mo.
Work, Jr., James A., Elkhart, Ind.
Worsham, Ludson, Evansville, Ind.
Worthington, Union, Salt Lake City.
Wight, Arthur L., Carroll, Iowa.
Wright, J. B., Trenton, Mo.
Wright, Leo S., Lowry City, Mo.
Wyman, Walter, Washington, D. C.
Yancey, E. F., Sedalia, Mo.
Yarbrough, L. A., Covington, Tenn.
Yates, John L., Milwaukee, Mo.
Yocum, M. G., Mentone, Ind.
Young, Anthony O., St. Louis.
Young, F. B., Springdale, Ark.
Young, Hugh H., Baltimore, Md.
Young, W. A., Springfield, Ill.
Young, W. G., Grand Rapids, Mich.
Zapffe, Fred C., Chicago.
Zinke, Stanley Gustav, Leavenworth, Kans.
Zinser, Harley A., Washington, Ill.
Zobel, Alfred J., San Francisco.
Zoller, C. H., Granite City, Ill.

Ophthalmology

Adams, A. L., Jacksonville, Ill.
Adams, George C., East St. Louis, Ill.
Alt, Adolph, St. Louis, Mo.
Archer, Minnie C., Houston, Tex.
Ayres, S. C., Cincinnati.
Backenstoe, M. J., Emaus, Pa.
Ball, James Moores, St. Louis.
Banner, C. W., Greensboro, N. C.
Barck, Carl, St. Louis.
Barnes, J. H., Enid, Okla.
Barnett, Mattylee Curl, St. Louis.
Bedell, Arthur J., *Albany*, N. Y.
Beil, J. Wallace, Kansas City, Mo.
Bell, James Hall, San Antonio, Tex.
Bellows, G. E., Kansas City, Mo.
Bennett, Arthur G., *Buffalo*, N. Y.
Benson, Geo. E., Minneapolis.
Black, Nelson M., Milwaukee.
Blakesley, T. S., Kansas City, Mo.
Bordley, Jr., *James*, Baltimore.

Bosse, Edwin H., St. Louis.
Bossidy, John C., Boston.
Bradley, E. H., Peoria, Ill.
Briggs, H. H., Asheville, N. C.
Brobst, C. H., Peoria, Ill.
Brown, E. V. L., Chicago.
Brown, Felix Manning, Hopkinsville, Ky.
Bullard, Robt. L., Springfield, Ill.
Bullitt, James B., University, Miss.
Bulson, Jr., Albert E., Fort Wayne, Ind.
Burroughs, Geo. M., Danielson, Conn.
Campbell, Wm. H., Cincinnati.
Carroll, James J., Baltimore.
Cary, Edward H., Dallas, Texas.
Chamberlin, J. W., St. Paul, Minn.
Charles, Joseph W., St. Louis.
Cline, W., Appleton City, Mo.
Collasowitz, A., St. Louis.
Connor, Leartus, Detroit.
Connor, Ray, Detroit.
Coultas, R. J., Mattoon, Ill.
Curdy, Robert J., Kansas City, Mo.
Davis, A. E., New York.
Dean, Frank W., Council Bluffs, Ia.
Dennis, David, Erie, Pa.
Dickson, J. F., Portland, Ore.
Dodd, Oscar, Chicago.
Donovan, John A., Butte, Mont.
Dorsay, J. G., Wichita, Kans.
Dotson, Walter S., Gallatin, Tenn.
Dowling, Oscar, Shreveport, La.
Duncan, Capt. Wm. A. Vancouver Barracks, Wash.
Dunlap, H. M., Battle Creek, Mich.
Dunn, Jas. W., Cairo, Ill.
Dutton, Chas. King, Moberly, Mo.
Edwards, W. A., La Crosse, Wis.
Ehrhardt, R. T., St. Louis.
Ellis, H. Bert, Los Angeles, Cal.
Ellett, E. C., Memphis, Tenn.
Emerson, Linn, Orange, N. J.
Esterly, Daniel E., Topeka, Kan.
Eure, J. B., Brookfield, Mo.
Ewing, Arthur E., St. Louis.
Faith, Thomas, Chicago.
Feingold, M., New Orleans.
Fischer, Waldermar E., St. Louis.
Fisk, Frank F., Price, Utah.
Forgrave, L. R., St. Joseph, Mo.
Fox, L. Webster, Philadelphia.
Francis, Lee M., Buffalo, N. Y.
Frank, Mortimer, Chicago.
Frantz, Charles P., Burlington, Iowa.
Fridenberg, Percy, New York.
Frisch, Frederick, Buffalo.
Gailey, W. W., Bloomington, Ill.
Gamble, William E., Chicago.
Gibson, Robert D., Youngstown, O.
Gifford, H., Omaha.
Gillum, J. Randolph, Terre Haute, Ind.
Godfrey, F. H., Bloomington, Ill.
Gosney, Charles W., Kansas City, Mo.
Gradle, Henry, Chicago.
Green, Jr., John, St. Louis.
Greene, Louis S., Washington, D. C.
Greenwood, Allen, Boston, Mass.
Gross, Julius H., St. Louis.
Grove, Wm. T., Eureka, Kan.
Gsell, J. F., Wichita, Kan.
Gunn, John C., Belleville, Ill.
Guthrie, Fred A., La Salle, Ill.
Hadley, James W., Frankfort, Ind.
Hagler, Arthur Lee, Springfield, Ill.
Hägler, Elmer E., Springfield, Mo.
Haley, Robert, Brookfield, Mo.
Hall, Sidney S., Ripon, Wis.
Hanna, J. J., Quanah, Tex.
Hardy, W. F., St. Louis.
Haughey, Wilfrid, Battle Creek, Mich.
Hayden, A. A., Chicago.
Heitger, Joseph Daniel, Bedford, Ind.
Henderson, Frank L., St. Louis.
Harron, J. T., Jackson, Tenn.
Hill, Hermon C., Benton Harbor, Mich.
Hogsett, C. Y., Ft. Worth, Texas.
Hooss, Albert, St. Louis.
Hornback, E. T., Hannibal, Mo.
Howard, W. L., Greenville, Miss.
Howe, Lucien, Buffalo.
Huffman, D. W., Crane, Mo.
Hughes, Harry S., St. Louis.
Hulen, Vard H., Houston, Texas.
Irwin, V. J., Springfield, Mass.
Jackson, Edward, Denver, Colo.
Jay, M. T., Portland, Ind.
Jennings, J. Ellis, St. Louis.
Jervey, J. W., Greenville, S. C.
Johns, W. A., Corinth, Miss.
Jones, E. L., Cumberland, Md.
Kelly, J. C., Mitchell, Ind.
Kelly, Sam G., Sedalia, Mo.
Kenney, W. L., St. Joe, Mo.
Knapp, Arnold, New York.
Knapp, George, Vincennes, Ind.
Knapp, H. C., Huntingburg, Ind.
Kimberlin, J. W., Kansas City, Mo.
Kipp, Charles J., Newark, N. J.
La Force, B. D., Ottumwa, Iowa.
La Force, E. Frank, Burlington, Iowa.
Lapsley, Robt. M., Keokuk, Iowa.
Leach, W. J., New Albany, Ind.
Ledbetter, S. L., Birmingham, Ala.
Leonard, P. I., St. Joseph, Mo.
Lesage, Charles A. E., Dixon, Ill.
Lewis, E. J., Sauk Center, Minn.
Lewis, F. Park, Buffalo.
Lichtenberg, Jos. S., Kansas City, Mo.
Lightner, C. R., St. Louis.
Loeb, Clarence, St. Louis.
Louchery, D. C., Clarksburg, W. Va.
Love, Frank W., Buffalo, N. Y.
Luedde, William H., St. Louis.
Lynch, J. L., Winona, Minn.
Magoon, Frank L., St. Louis.
Magruder, A. C., Colorado Springs, Colo.
Mann, R. H. T., Texarkana, Ark.
March, Clara A., Buffalo, N. Y.
Marsden, Henry, I., Somerset, Pa.
Martin, H. H., Savannah, Ga.
Maser, G. W., Parsons, Kans.
Matheny, R. C., Galesburg, Ill.
May, James W., Kansas City, Kan.
McAlester, Jr., A. W., Kansas City, Mo.
McBride, W. O., Joliet, Ill.
McClelland, Clarence E., Decatur, Ill.
McDavitt, Thos., St. Paul, Minn.
McGirt, John I., Beatrice, Mo.
McIntire, Charles, Easton, Pa.
McLemore, T., Nevada, Mo.
Meanor, William C., Beaver, Pa.
Meyer, J. H. Wm., La Porte, Ind.
Middleton, A. B., Pontiac, Ill.
Miller, Chas. E., Muncie, Ind.
Miller, R. F., St. Louis, Mo.
Miller, Robert W., Los Angeles.
Minor, Charles L., Springfield, Ohio.
Moore, Thos. W., Huntington, W. Va.
Morris, Robt. H., Linneus, Mo.
Morrison, Frank A., Indianapolis.
Morse, H. Beach, Bay City, Mich.
Moulton, Herbert, Fort Smith, Ark.
Muetze, Henry, St. Louis.
Nance, Willis O., Chicago.
Norris, Edwin J., St. Louis, Mo.
Noyes, Guy L., Columbia, Mo.
Orendorff, Otis, Canon City, Colo.
Owen, W. C., St. Louis.
Paine, George F., St. Louis, Mo.
Parker, Frederick P., St. Louis.
Parker, Walter R., Detroit.
Parrish, E. E., Memphis, Mo.
Penn, Benj. S., Humboldt, Tenn.
Pfingst, Adolph O., Louisville, Ky.
Posey, Wm. Campbell, Philadelphia.
Post, M. H., St. Louis.
Powers, Everett, Carthage, Mo.
Pratt, John A., Aurora, Ill.
Prince, A. E., Springfield, Ill.
Pusey, Brown, Chicago.
Ramsey, J. Wilson, Jonesboro, Ark.
Randolph, R. L., Baltimore, Md.
Ranly, John, Cincinnati.
Ray, J. M., Louisville, Ky.
Reber, Wendell, Philadelphia.
Reding, H., Lawrence, Kans.
Reed W. M., Kansas City, Mo.
Rein, Hugo, St. Louis.
Rinehart, H. D., Dayton, Ohio.
Rogers, G. M. F., Austin, Minn.
Rowley, Frances, Galveston, Texas.
Sanders, Frank L., Kansas City, Mo.
Sanderson, Hermon H., Detroit.
Savage, G. C., Nashville, Tenn.
Savage, H. G. Savage, Warsaw, Mo.
Saxl Ernst, St. Louis.
Scales, J. W., Pine Bluff, Ark.
Schneider, G. J., Elgin, Ill.
Schultz, N. H., Kansas City, Mo.
Semple, N. M., St. Louis.
Shahan, William Ewing, St. Louis.
Shannon, C. E. G., Philadelphia, Pa.
Shastid, Wm. E., Pittsfield, Ill.
Shelton, J. C., Chillicothe, Mo.
Shoemaker, J. F., St. Louis.
Shoemaker, W. A., St. Louis.
Shore, F. E. V., Des Moines, Iowa.
Simpson, John D., Minneapolis.
Sites, J. McKee, Martinsburg, W. Va.
Smith, J. Whitefield, Bloomington, Ill.
Smith, Owen A., Farmington, Mo.
Smith, U. S., Hannibal, Mo.
Snyder, Walter H., Toledo, Ohio.
Spitze, Edward C., East St. Louis, Ill.
Stevens, Cyrus Lee, Athens, Pa.
Stevenson, David W., Richmond, Ind.
Stevenson, Mark D., Akron, Ohio.
Stillson, J. O., Indianapolis.
Stilwill, Hiram R., Denver.
Summers, J. W., Walla Walla, Wash.
Swan, C. J., Chicago.
Tarun, Wm., Baltimore, Md.
Taugher, A. J., Milwaukee.
Taylor, Lewis H., Wilkes-Barre, Pa.
Thompson, J. L., Indianapolis.
Thomson, Edgar S., New York.
Thorington, James, Philadelphia.
Thorpe, Lewis S., Los Angeles.
Tiffany, Flavel B., Kansas City, Mo.
Todd, Frank C., Minneapolis.
Todd, S. Gordon, Neenah, Wis.
Tydings, O., Chicago.
Vail, Derrick T., Cincinnati.
Vanderhoof, Don A., Rockford, Ill.
Van Slyke, F. W., St. Paul, Minn.
Vinsonhaler, Frank, Little Rock, Ark.
Voight, C. B., Mattoon, Ill.
Vollmer, Karl, Davenport, Iowa.
Walter, Will, Chicago.
Weed, Harry M., Buffalo.
Weeks, John E., New York.
Wescott, Cassius D., Chicago.
Wever, John S., Kansas City, Mo.
White, Joseph A., Richmond, Va.
Wilder, William H., Chicago.
Wiener, Meyer, St. Louis.
Williams, Charles H., Boston.
Williamson, Llewellyn, St. Louis.
Wolfenstein, Leo, Cleveland.
Wolfner, Henry L., St. Louis.
Wood, Casey A., Chicago.
Woodruff, F. E., St. Louis.
Woodruff, Thomas A., Chicago.
Woods, Hiram, Baltimore.
Workman, R. A., Woodward, Okla.
Wright, John W., Columbus, Ohio.
Wright, Sherman E., Marinette, Wis.
Wyatt, William Walter, Peoria, Ill.
Wyler, Jesse S., Cincinnati.
Yereman, O. H., Kansas City, Kans.
Young, H. C., Bloomfield, Iowa.
Yount, W. E., Cape Girardeau, Mo.
Zieber, W. H., Queen City, Mo.
Ziegler, S. Lewis, Philadelphia.
Zentmayer, William, Philadelphia.
Zorger, Annie L., Champaign, Ill.
Zugg, Clarence L., Kansas City, Kans.

Laryngology and Otology

Ahlers, O. C., Sherman, Texas.
Anderson, W. B., Brownwood, Tex.
Anderson, Willis S., Detroit, Mich.
Andrews, Albert H., Chicago.
Alway, R. D., Aberdeen, S. Dak.
Auten, Frank E., Belleville, Ill.
Ballinger, William Lincoln, Chicago.
Barclay, Robert, St. Louis.
Bardenheier, F. G. A., St. Louis.
Barnes, Algernon S., Jr., St. Louis.
Bartholomew, A. C., S. Bend, Ind.
Beck, Joseph C., Chicago.
Biewend, E. F., St. Louis.
Black, William D., St. Louis.
Boot, G. W., Evanston, Ill.
Boyd, Frank D., Ft. Worth, Texas.
Bradley, Arthur H., St. Louis.
Brodrick, F. W., Sterling, Ill.
Brose, Louis D., Evansville, Ind.
Brown, Clayton M., Buffalo, N. Y.
Brown, Frederick L., Chicago.
Bryan, Wm. M. C., St. Louis.
Bryant, W. Sohier, New York.
Burke, Chas. L., Kansas City, Mo.
Caldwell, Robert, Little Rock, Ark.
Canfield, R. B., Ann Arbor, Mich.
Caplan, L., St. Louis.
Casselberry, W. E., Chicago.
Cott, Geo. F., Buffalo, N. Y.
Craig, Alex. R., *Philadelphia, Pa.*
Creveling, H. Clay, St. Louis.
Cushman, M. L., Lansing, Mich.
Dames, Alphonse F., St. Louis.
Davis, Chas. L., Robinson, Ill.
Davis, George E., New York.
Dean, Lee Wallace, Iowa City, Ia.
Decherd, Henry B., Dallas, Texas.
Dench, Edward Bradford, New York.
Devilbiss, Allen, Toledo, Ohio.
Duel, Arthur B., New York.
Emerson, Francis P., Boston.
Farrell, P. J. H., Chicago.
Fletcher, J. R., Chicago.
Foreman, J. M., Jonesburg, Mo.
Foster, John H., Houston, Texas.
Fowler, Samuel R., St. Louis.
Freer, Otto T., Chicago.
Garraghan, Edward F., Chicago.
Geiger, Arthur H., Chicago.
Gillespie, G. B., Covington, Tenn.
Glogau, Otto, New York.
Goldstein, Max A., St. Louis.
Good, R. H., Chicago.
Goodman, Daniel Carson, St. Louis.
Greene, Joseph B., Asheville, N. C.
Griffith, D. M., Owensboro, Ky.
Grubbs, S. B., San Juan, Porto Rico.
Guggenheim, L. K., St. Louis.
Hall, D. Walton, Kansas City, Mo.
Hall, Gaylord C., *Louisville*, Ky.
Hall, H. R., St. Louis.
Hall, W. T., Tarentum, Pa.
Higgins, Samuel G., Milwaukee, Wis.
Hill, H. B., Logansport, Ind.
Hitz, Henry B., Milwaukee, Wis.
Hogue, Delos W., Springfield, Ohio.
Horn, Henry, San Francisco, Cal.
Howell, John S., Hannibal, Mo.
Huey, Thomas F., Anniston, Ala.
Ingals, E. Fletcher, Chicago.
Jackson, Chevalier, Pittsburg, Pa.
James, John A., St. Louis.
Johnson, H. R., Fairmont, W. Va.
Johnson, W. L., St. Louis.
Kalar, Sara Blaine, Bloomfield, Neb.
Kelley, I. D., Jr., St. Louis.
Kelly, M. B., Wheeling, W. Va.
Kempff, Louis A., St. Louis.
Kepke, John, Brooklyn, N. Y.
Kimball, Z. V., Hillsboro, Ill.
Klokke, W. Emil, St. Louis.
Koetter, Albert F., St. Louis.
Kyle, D. Braden, Philadelphia.
Kyle, John J., Indianapolis, Ind.
Lave, Frank L., Iowa City, Iowa.
Layman, Daniel W., Indianapolis.
Leavy, C. A., St. Louis.
Lee, Daniel R., Arcadia, Neb.
Lemere, Henry B., Omaha, Neb.
Lester, Harry S., Streator, Ill.
Levy, Robert, Denver.
Lewis, Eugene R., Dubuque, Iowa.
Littig, John V., Davenport, Iowa.
Loeb, Hanau W., St. Louis.
Logan, James E., Kansas City, Mo.
Lyman, H. W., St. Louis.
Magee, R. S., Topeka, Kan.
Marquis, George Paull, Chicago.
Matthews, Justus, Rochester, Minn.
Mason, William B., Washington, D.C.
McAllister, J. C., Ridgway, Pa.
McDonald, W. B., New Augusta, Ind.
McKinney, Richmond, Memphis, Tenn.
Menge, Frederick, Chicago.
Miller, Clifton M., Richmond, Va.
Miller, H. Edward, St. Louis.
Millette, J. W., Dayton, Ohio.
Miner, Stanley G., Detroit, Mich.
Mithoefer, Wm., Cincinnati.
Murphy, John W., Cincinnati.
Murray, Wm. R., Minneapolis.
Neuman, Daniel S., Denver.
Newhart, Horace, Minneapolis.
Odell, Anna, Detroit, Mich.
O'Kelley, J. P., New Orleans.
Oren, Samuel A., Lewistown, Ill.
Osgood, C. F., Ogden, Utah.
Page, LaFayette, Indianapolis, Ind.
Pearson, Wm. W., Des Moines, Iowa.
Pfingsten, C. F., St. Louis.
Pierce, Norval H., Chicago.
Purcell, C. E., Paducah, Ky.
Pyfer, Howard F., Norristown, Pa.
Reik, J. N., Baltimore, Md.
Reynold, H. G., Paducah, Ky.
Rhodes, John Edwin, Chicago.
Roe, John O., Rochester, N. Y.
Roy, Dunbar, Atlanta, Ga.
Sandels, C. C., Pittsburg, Pa.
Sauer, William E., St. Louis.
Sawtell, J. E., Kansas City, Kan.
Scholz, Ray Ph., St. Louis.
Shallcross, W. G., Pittsburg, Pa.
Shambaugh, George E., Chicago.
Shapleigh, J. B., St. Louis.
Shedd, J. Z., North Conway, N. H.
Sheedy, Bryan D., New York.
Sheley, O. C., Independence, Mo.
Shirk, George Wynn, Cornwall-on-Hudson, N. Y.
Short, Z. N., Hot Springs, Ark.
Shumate, D. L., Kansas City, Mo.
Shurly, Burt Russell, Detroit, Mich.
Simon, F. C., St. Louis.
Skillern, Ross Hall, Philadelphia.
Sluder, Greenfield, St. Louis.
Smith, J. Campbell, St. Louis.
Smith, S. MacCuen, Philadelphia.
Spencer, H. N., St. Louis.
Spencer, Selden, St. Louis.
Staley, Clinton, Enfield, Ill.
Stein, Otto J., Chicago.
Stucky, J. A., Lexington, Ky.
Terrell, S. L., Dallas, Texas.
Thomasson, W. J., Newport, Ky.
Thrasher, A. B., Cincinnati, Ohio.
Titswarth, Guy, Sedalia, Mo.
Tomlin, Wm. S., Indianapolis, Ind.
Torrison, George A., Chicago.
Tureman, Herbert, Kansas City, Mo.
Vaughan, G. E., Clarksville, Tenn.
Voorhees, Sherman, Elmira, N. Y.
Von-der-Au, O. L., St. Louis.
Welty, Cullen F., San Francisco.
Wheeler, W. S., Kansas City, Mo.
Wilson, Charles A., St. Louis.
Wintermute, G. P., Oakland, Cal.
Wyche, Charles, St. Louis.

Nervous and Mental Diseases

Anderson, C. H., Menard, Ill.
Anderson, Frank M., Decatur, Ill.
Aplin, Floyd W., Waukesha, Wis.
Babcock, James W., Columbia, S. C.
Barstow, James M., Council Bluffs, Ia.
Bassoe, Peter, Chicago.
Beebe, Brooks F., Cincinnati.
Benton, G. H., Chester, W. Va.
Bliss, M. A., St. Louis.
Booth, David S., St. Louis.
Bowe, Edward, Jacksonville, Ill.
Bradburn, B. P., Lincoln, Ill.
Bradley, J. M., St. Louis.
Brady, E. J., Kalamazoo, Mich.
Briggs, L. Vernon, Boston.
Brown, Arthur C. F., St. Louis.
Brown, Sanger, Chicago.
Burnett, S. Grover, Kansas City, Mo.
Burnham, A. F., Mason City, Ill.
Caldwell, C. B., Lincoln, Ill.
Campbell, Given, St. Louis.
Cardwell, Mac H. Whitney, Portand, Ore.
Chavigny, C. U., New Orleans.
Church, Archibald, Chicago.
Collins, Joseph, New York.
Cooney, Henry C., Princeton, Minn.
Courtney, J. Elvin, Denver.
Cowle, Fannie W., Hot Springs, Ark.
Dana, Charles L., New York.
Darling, Ulysses Grant, Chicago.
Diller, Theodore, Pittsburg.
Doolittle, John C., Des Moines, Ia.
Edwards, G. P., Nashville, Tenn.
Fairchild, Statella F., St. Louis.
Farmer, Percy J., St. Louis.
Folkes, H. M., Biloxi, Miss.
Fry, Frank R., St. Louis.
Goddard, C. C., Leavenworth, Kan.
Graves, William W., St. Louis.
Grinker, Julius, Chicago.
Hall, George W., Chicago.
Hamilton, Arthur S., Minneapolis.
Hardt, H. G., Lincoln, Ill.
Haywood, Charles W., Elkhart, Ind.
Hazen, Charles M., Bon Air, Va.
Hecht, D'Orsay, Chicago.
Hermann, H. W., St. Louis.
Hoffman, Geo. E., Logansport, Ind.
Hoge, M. W., St. Louis, Mo.
Hoppe, Herman H., Cincinnati.
Hughes, Chas. H., St. Louis.
Hughes, Marc Ray, St. Louis.
Hummel, E. M., New Orleans.
Ives, A. W., Detroit, Mich.
Johnson, C. W., Litchfield, Ill.
Jones, W. A., Minneapolis.
Kempker, J. F., Davenport, Iowa.
Lane, E. H., East St. Louis, Ill.
Langdon, F. W., Cincinnati.
Leonard, M. W., Akron, Ohio.
Lichty, Daniel, Rockford, Ill.
Lindsay, W. S., Topeka, Kan.
Mason, Lewis D., Brooklyn, N. Y.
Mayer, Edward E., Pittsburg, Pa.
McBride, James H., Pasadena, Cal.
McCready, E. B., Pittsburg, Pa.
Mettler, L. Harrison, Chicago.
Moleen, Geo. A., Denver.
Moody, G. H., San Antonio, Tex.
Moore, Richard C., Omaha, Neb.
Moren, Jno. J., Louisville, Ky.
Morriss, Zenelle E., Stockport, Ia.
Moyer, Harold N., Chicago.
Norbury, Frank P., Kankakee, Ill.
Parsonnet, Victor, Newark, N. J.
Perry, M. L., Parsons, Kan.
Pettey, Geo. E., Memphis, Tenn.
Punton, John, Kansas City, Mo.
Robinson, J. F., Nevada, Mo.
Rodenbaugh, H. A., Columbus, O.
Rucker, S. T., Memphis, Tenn.
St. Clair, F. E. E., Hampton, Ia.
Sanders, C. A., Marble Hill, Mo.
Sanders, Karl D., Jonesboro, Ill.
Schwab, Sidney I., St. Louis.
Sherman, E. Amelia, McGregor, Ia.
Singer, H. Douglas, Kankakee, Ill.
Skoog, A. L., Kansas City, Mo.
Sneve, Haldor, St. Paul, Minn.
Spink, Urbana, Indianapolis, Ind.
Stephenson, Frank H., Syracuse, N. Y.
Sterne, Albert E., Indianapolis, Ind.
Stevens, Frank T., Mt. Pleasant, Ia.
Sweeney, Arthur, St. Paul, Minn.
Taylor, Lewis C., Springfield, Ill.
Thierry, Charles W., St. Louis.
Todd, Frank L., Pittsburg, Pa.
Treadway, Walter L., Jacksonville, Ill.
Trusler, Leslie S., Oakland City, Ind.
Turner, B. F., Memphis, Tenn.
Turner, Jno. S., Dallas, Tex.
Twohey, John J., Buffalo, N. Y.
Uhls, L. L., Osawatomie, Kan.
Voldeng, M. N., Cherokee, Iowa.
Wallace, H. R., Alton, Ill.
Wallace, L. S., Bunker Hill, Ind.
Webster, Edgar M., Chicago.
Wingerter, C. A., Wheeling, W. Va.
Woodson, C. R., St. Joseph, Mo.
Work, Hubert, Pueblo, Colo.
Zenner, Philip, Cincinnati.

Preventive Medicine and Public Health

Adelsberger, Louis, Waterloo, Ill.
Akerley, A. W., Milwaukee, Wis.
Arms, B. L., Boston.
Bagby, B. B., West Point, Va.
Barnes, Carl L., Chicago.
Batt, Wilmer R., Harrisburg, Pa.
Best, E. H., Freeport, Ill.
Bishop, Frances L., St. Louis.
Bond, H. W., St. Louis.
Brossard, Pierre M., Maplewood, Mo.
Cameron, Solon, St. Louis.
Clemmer, J. W., Columbus, Ohio.
Cohen, Hyman, Chicago.
Colwell, N. P., Chicago.
Crothers, T. D., Hartford, Conn.
Crowder, Thomas R., Chicago.
Davis, Effa V., Chicago.
DeLamater, Hasbrouck, Kansas City, Mo.
Dodds, William T. S., Indianapolis.
Dunn, Wm. L., Asheville, N. C.
Dutton, W. Forest, Carnegie, Pa.
Egan, James A., Springfield, Ill.
Egbert, Seneca, Philadelphia.
Evans, W. A., Chicago.
Fierbaugh, T. C., Harrisonburg, Va.
Florence, J. H., Houston, Tex.
Freeman, Allen W., Richmond, Va.
Garrigue, Evelyn, New York.
Gehrmann, Adolph, Chicago.
Godfrey, Edward S., Jr., Phoenix, Ariz.
Goodwin, E. J., St. Louis.
Gorgas, W. C., Ancon, Canal Zone, Panama.
Grant, W. Ed, Louisville, Ky.
Greene, Frances Marx, Brookline, Mass.
Griffitts, T. H. D., Springfield, Ill.
Hemenway, Henry B., Evanston, Ill.
Hicks, J. R., Covington, Ind.
Hill, Hibbert Winslow, Minneapolis.
Hitchens, A. Parker, Glenolden, Pa.
Hodsdon, E. W., Mountainview, N. H.
Homan, George, St. Louis.
Howard, D. C., Washington, D. C.
Hurty, J. N., Indianapolis.
Hyde, E. E., Chicago.
Ireland, Major M. W., Washington, D. C.
Irwin, Charles B., Kansas City, Mo.
Jones, C. Hampson, Baltimore.
Jones, Philip Mills, San Francisco.
Kerr, J. W., Washington, D. C.
King, J. E., Richmond, Ind.
Kirk, J. W., Oblong, Ill.
Koehler, Gottfried, Chicago.
Kohlheim, Louis, Guntown, Miss.
Leathers, Walter S., University, Miss.
Lingenfelder, Julius, St. Louis.
Long, John D., Washington, D. C.
MacLaren, J. D., Norman, Okla.
Magruder, G. Lloyd, Washington, D. C.
Marnell, F. S., Nebraska City, Neb.
Marner, G. P., Marion, Kan.
Martin, Elizabeth L., Pittsburg, Pa.
Montgomery, Liston Homer, Chicago.
Morfit, John C., St. Louis.
Morrow, Prince A., New York.
Morton, Rosalie Slaughter, New York.
Müller, J. A., Snyder, Okla.
Overholser, M. P., Harrisonville, Mo.
Porter, William, St. Louis.
Price, Marshall Langton, Baltimore.
Quigley, D. T., North Platte, Neb.
Ravenel, Mazyck, Madison, Wis.
Rawlings, I. D., Chicago.
Rea, Robt. W., Plattsburg, Mo.
Reynolds, Arthur R., Chicago.
Richmond, W. W., Clinton, Ky.
Riddle, Julia, Oshkosh, Wis.
Royer, B. Franklin, Harrisburg, Pa.
Sherbon, Florence Brown, Colfax, Iowa.
Snow, William F., Stanford University, Cal.
Snyder, Major Henry D., St. Louis.
Stanton, Samuel Cecil, Chicago.
Taylor, C. F., Philadelphia.
Taylor, Holman, Fort Worth, Tex.
Thornton, C. W., Dalhart, Tex.
Tonney, F. O., Chicago.
Townsend, Pauline Myers, Marshalltown, Iowa.
Tucker, B. G., Nashville, Ten.
Tuttle, T. D., Helena, Mont.
Ward, Ida Bruce, Georgetown, D. C.
Warren, Benjamin S., St. Louis.
White, Joseph H., New Orleans.
Williams, Dudley B., Osceola, Mo.
Woodyard, S. W., Greeneville, Tenn.
Young, G. B., Chicago.
Young, Jno. W., Grenada, Miss.

Stomatology

Adair, Joseph M., Claypool, Ky.
Alcorn, Edward, Hustonville, Ky.
Allen, John M., Liberty, Mo.
Anderson, Albert, Raleigh, N. C.
Barber, Moses B., Flat River, Mo.
Bethel, L. P., Columbus, Ohio.
Brophy, Truman W., Chicago.
Brown, George V. I., Milwaukee, Wis.
Carter, Joseph J., Weston, Mo.
Cook, George, Concord, N. H.
Corum, John R., Ashbyburg, Ky.
Creel, Milton P., Central City, Ky.
Davis, J. S., East Prairie, Mo.
Fisher, William C., New York.
Fletcher, M. H., Cincinnati.
Fowler, Wm., Alderson, Okla.
Garrabrant, Clarence, Atlantic City, N. J.
Geary, H. Logan, Seattle, Wash.
Gilmer, Thos. L., Chicago.
Gray, J. P., Nashville, Tenn.
Griffin, P. Henry, St. Louis.
Harrison, A. M., Lees Summit, Mo.
Hanson, H., Des Peres, Mo.
Hunt, Chas., Clinton, Ky.
Lischer, B. E., St. Louis.
Loeb, Virgil, St. Louis.
Long, Jesse, Minneapolis.
Marchman, Oscar M., Dallas, Tex.
Maische, August F., Manchester, Mo.
McClanahan, J. M., Guilford, Mo.
McCurdy, Stewart L., Pittsburg.
McRee, W. C., Trenton, Tenn.
McTate, Joseph C., Meadville, Pa.
Moore, P. A., Jordan, Ky.
Moorehead, F. B., Chicago.
Munson, C. L., St. Louis.
Neumann, Wm. H., Lewiston, Minn.
Noyes, Frederick B., Chicago.
Potts, Herbert A., Chicago.
Power, James E., Providence, R. I.
Presnell, C. C., Desoto, Mo.
Prinz, Hermann, St. Louis.
Reid, H. L., Charleston, Mo.
Riedy, James A., Monongah, W. Va.
Schmalhorst, D. E., St. Louis.
Smith, G. C., Boston.
Smith, W. B., Fairland, Okla.
Soper, H. W., St. Louis.
Stiff, F. W., Richmond, Va.
Talbot, Eugene S., Chicago.
Thomas, J. Smith, Pleasant Hill, Ill.
Thorpe, Burton Lee, St. Louis.
Trewyn, Wm. Thos., Peoria, Ill.
White, Geo. W., Oakland, Ky.

Diseases of Children

Abt, Isaac, A., Chicago.
Alexander, J. D., Tiptonville, Tenn.
Allin, Frank W., Chicago.
Anderson, C. A., Stromsburg, Neb.
Andrews, Leila E., Oklahoma City, Okla.
Barker, William Shirmer, St. Louis.
Bartlett, Elmer E., Lamar, Colo.
Bartley, E. H., Brooklyn.
Bebb, Walter S., Downers Grove, Ill.
Bernheim, Louis, Butte, Mont.
Black, Robt. A., Chicago.
Blair, B. H., Lebanon, Ohio.
Bleyer, A. S., St. Louis.
Bolt, Richard A., Cleveland.
Brady, John M., St. Louis.
Bridger, James D., Memphis, Tenn.
Brown, Alice Barlow, Chicago.
Brown, Orland J., North Adams, Mass.
Brucker, Charles M., Tell City, Ind.
Butler, William J., Chicago.
Caldwell, John C., East St. Louis, Ill.
Campbell, J. A., Wheeling, W. Va.
Cattermole, Geo. H., Boulder, Colo.
Cheney, H. W., Chicago.
Churchill, Frank S., Chicago.
Clemens, James Ross, St. Louis.
Coit, Henry L., Newark, N. J.
Cornell, C. W., Knoxville, Iowa.
Cook, E. A., Upper Alton, Ill.
Cooksey, William P., Atlanta, Ark.
Cotton, Alfred C., Chicago.
Davis, Clara M., Lansing, Mich.
DeBuys, L. R., New Orleans.
Deziel, Godfrey, Minneapolis.
Dodson, John Milton, Chicago.
Douglas, Chas., Detroit.
Earle, Clarence A., Des Plaines, Ill.
Edwards, Ogden M., Jr., Pittsburg, Pa.
Edwards, Wm., Bowdle, S. Dak.
Elterich, Theodore J., Pittsburg, Pa.
Ford, Alice Porter, New Haven, Conn.
Forgrave, Harrison S., St. Joseph, Mo.
Friedlander, Alfred, Cincinnati.
Garlinghouse, Orestes L., Iola, Kan.
Gengenbach, Frank P., Denver, Colo.
Gordon, F. N., St. Louis.
Graham, Edwin E., Philadelphia.
Gray, Isabel, St. Louis.
Grote, Wm. F. H., St. Louis.
Hall, Elizabeth, Carthage, Mo.
Hamill, S. McC., Philadelphia.
Harkey, William Cathey, Kansas City, Mo.
Harral, W. E., St. Louis.
Hereford, Will D., St. Albans, W. Va.
Hines, Edgar A., Seneca, S. C.
Hockman, B. F., Sumner, Ill.
Holmes, Arthur D., Detroit.
Hoskins, W. D., Indianapolis.
Hough, Charles Pinckney, Jefferson City, Mo.
Houston, R. E., Greenville, S. C.
Howland, John, New York.
Hughes, W. L., Indiana Harbor, Ind.
Humphrey, J. H., St. Louis.
Jackson, John B., Kalamazoo, Mich.
Jacobi, Abraham, New York.
Johnstone, Mary M. S., Chicago.
Jones, Arch D., Wichita, Kan.
Jones, Eleanor C., Philadelphia.
Jones, R. P., Clinton, La.
Juengel, Arthur H., St. Louis.
Kelley, Samuel W., Cleveland.
Kerley, Charles Gilmore, New York.
King, Jesse A., Victoria, Ill.
Klein, Sebastian, St. Louis.
Kopfstein, F. T., Cleveland.
Kuhn, Daniel, St. Louis.
Lacey, J. H., Albion, Ill.
Lackner, Ernest, Chicago.
Lamb, Frank H., Cincinnati.
Lenty, J. D., Farmington, Wash.
Leopold, Jerome S., New York.
Levy, Aaron, St. Louis.
Lippe, Meyer J., St. Louis.
Lippmann, G., St. Louis.
Lock, James S., Barboursville, Ky.
Lowenstein, H. M., St. Louis.
Long, Eli, New York.
Martin, Charles P., St. Louis.
Martin, Tilly A., St. Louis.
McClanahan, Harry M., Omaha, Neb.
McNeill, H. I., Newman, Ill.
McVea, Charles, Baton Rouge, La.
Meng, Edwin R., St. Louis.
Merrill, Julia D., Chicago.
Merriman, C. S., Kansas City, Mo.
Miller, W. H., Macon, Mo.
Milligan, Josephine, Jacksonville, Ill.
Mitchell, Esther, Shawnee, Okla.
Moore, J. M., Cleveland.
Moore, O. T., St. Louis.
Morse, John Lovett, Boston.
Myers, Albert William, Milwaukee, Wis.
Neff, Frank C., Kansas City, Mo.
Neece, Thos. C., Walnut Ridge, Ark.
Newkirk, Jessie Slavens, Kansas City, Kan.
Noonan, C. J., Brooklyn.
Parke, Thos. D., Birmingham, Ala.
Pierson, Allen, Spencer, Ind.
Pisek, Godfrey R., New York.
Pollock, Robert, Cleveland.
Porteous, Edward J., Atlantic City, N. J.
Redden, Thomas O., Jolietville, Ind.
Reich, J. L., Wagoner, Okla.
Richardson, Katharine B., Kansas City, Mo.
Rittenhouse, Walter, Lake Geneva, Wis.
Roberts, Roy B., Brimfield, Ill.
Robichaux, E. C., Excelsior Springs, Mo.
Rosamond, J. H. E., Memphis, Tenn.
Rotteck, Julius, St. Louis.
Rowland, R. S., Detroit.
Royster, L. T., Norfolk, Va.
Russell, James M., Monett, Mo.
Sedgwick, J. P., Minneapolis.
Sennott, John S., Waterloo, Ill.
Shulean, Nellie S., Cambridge, Minn.
Shuler, Anne Mary, Davenport, Ia.
Sill, E. Mather, New York.
Smead, Herbert E., Toledo, Ohio.
Smith, E. S., Macon, Mo.
Smith, Morgan, Little Rock, Ark.
Snell, M. W., Litchfield, Ill.
Snyder, J. Ross, Birmingham, Ala.
Southworth, Thomas S., New York.
Spinzig, Felix, St. Louis.
Stevens, Corbin D., Magnolia, Ark.
Stewart, James, St. Louis.
Talbot, Fritz B., Boston.

Thomas, J. J., Cleveland.
Thompson, H. H., Noblesville, Ind.
Tooker, Charles W., St. Louis.
Townsend, H. S., Buffalo, N. Y.
Troutt, E. C., Birds, Ill.
Tuley, Henry Enos, Louisville, Ky.
Tuttle, George M., St. Louis.
Twitchell, B. E., Belleville, Ill.
Vores, C. Preston, Unionville, Mo.
Vander Bogert, Frank, Schenectady, N. Y.
Vanderslice, J. W., Oak Park, Ill.
VanWinkle, J. W., Chicago.
Wahrer, C. F., Fort Madison, Ia.
Walker, Alfred A., Birmingham, Ala.
Wells, J. W., Waltonville, Ill.
Wood, C. Martin, Decatur, Ill.
Work, James Anderson, Elkhart, Ind.
Wynkoop, Edward J., Syracuse, N. Y.
Young, Josephine E., Chicago.
Zahorsky, John, St. Louis.

Dermatology

Allen, Kotz, Memphis, Tenn.
Ankrim, L. F., Pittsburgh, Pa.
Baer, Clarence Allen, Milwaukee.
Bathhurst, Wm. R., Little Rock, Ark.
Baum, William L., Chicago.
Brayton, A. W., Indianapolis.
Brosius, William Lewis, Gallatin, Mo.
Brown, Geo. S., Conway, Ark.
Collings, Howard P. Hot Springs, Ark.
Conaway, Aaron C., Marshalltown, Ia.
Corlett, William Thomas, Cleveland.
Danielson, Karl A., Litchfield, Minn.
Davis, Geo. W., Kansas City, Mo.
Davis, Robert H., St. Louis.
Dorr, R. C., Batesville, Ark.
Duncan, John H., St. Louis.
Dyer, Isadore, New Orleans.
Engman, Martin F., St. Louis.
Farrer, John T., Providence, R. I.
Field, Geo. J., Salt Lake City.
Fischkin, Edward A., Chicago.
Foerster, O. H., Milwaukee.
Fordyce, John A., New York.
Fox, Howard, New York.
Frick, Wm., Kansas City, Mo.
Gnichtel, A. L., New York.
Greiner, Theodore, St. Louis.
Grindon, Joseph, St. Louis.
Haase, Marcus, Memphis, Tenn.
Harris, Frederick G., Chicago.
Hay, Eugene C., Hot Springs, Ark.
Hays, John Edwin, Louisville, Ky.
Hazen, H. H., Washington, D. C.
Heidingsfeld, M. L., Cincinnati.
Hottinger, Erwin S., Chicago.
Houwink, J. J., St. Louis.
Hughes, N. J., Waverly, Ill.
Inge, James M., Denton, Texas.
Jelks, Frank W., Hot Springs, Ark.
Kessler, J. B., Iowa City, Iowa.
Kimbrough, John S., St. Louis.
King, J. M., Nashville, Tenn.
Knowles, Frank Crozer, Philadelphia.
Lain, E. S., Oklahoma City, Okla.
Lenahan, F. P., Wilkes-Barre, Pa.
Lyle, Halsey M., Kansas City, Mo.
McBride, William L., Kansas City, Mo.
McEwen, Ernest L., Evanston, Ill.
McGlasson, I. L., Waco, Texas.
Miller, W. Jackson, St. Louis, Mo.
Mook, William H., St. Louis.
Ormsby, Oliver S., Chicago.
Prentiss, H. S., Pleasant Hill, Mo.
Pusey, Wm. Allen, Chicago.
Quinn, Wm. A., Chicago.
Raithel, G. H., St. Louis.
Ravogli, A., Cincinnati.
Ravold, Amand, St. Louis.
Roop, William O., Dayton, Ohio.
Roussel, J. N., New Orleans.
Schalek, Alfred, Omaha, Neb.
Schaller, R. G., Alton, Ill.
Schmidt, Louis E., Chicago.
Scott, Cline D., St. Louis.
Spelmire, J. B., Dallas, Texas.
Shultz, Cameron, Danville, Pa.
Spink, T. F., Washington, Ind.
Suggatt, O. LeGrand, St. Louis.
Sumney, H. C., Omaha, Neb.
Sutton, Richard Lightburn, Kansas City, Mo.
Thompson, M. G., Hot Springs, Ark.
Tucker, E. D., Toledo, Ohio.
Vanderhorck, M. P., Minneapolis.
Varney, H. R., Detroit.
Waugh, J. F., Chicago.
Wende, Grover W., Buffalo.
Wendell, J. T., Louisville, Ky.
Weston, Robert A., Des Moines, Ia.
White, Charles J., Boston.
Wilhelmj, Walter, East St. Louis, Ill.
Williams, A. U., Hot Springs, Ark.
Williams, F. M., Hot Springs, Ark.
Wolf, Alexander S., St. Louis, Mo.
Zeller, Geo. A., Peoria, Ill.

Pharmacology and Therapeutics

Abbott, W. C., Chicago.
Adamson, H. K., Maysville, Ky.
Bailey, Harold C., New York.
Boos, William F., Boston.
Burdick, A. S., Chicago.
Butler, Geo. F., Wilmette, Ill.
Cramp, Arthur J., Chicago.
Dixon, James Thomas, Providence, Ky.
Downing, Ben R., Farmington, Mo.
Edsall, David L., Philadelphia.
Emerson, Haven, New York.
England, Joseph W., Philadelphia.
Friedman, Jacob, St. Louis.
Ford, Starr, Cincinnati.
Gee, H. L., Mount Vernon, Ill.
Habermaas, Albert, St. Louis, Mo.
Hall, E. N., Bowling Green, Ky.
Hallberg, Carl S. N., Chicago.
Haskell, Chas. C., Indianapolis.
Hatcher, Robert A., New York.
Hendrix, M. B., Caruthersville, Mo.
Houghton, E. M., Detroit.
Jenne, J. N., Burlington, Vt.
Kahlo, Geo. D., French Lick, Ind.
Livingston, Alfred T., Jamestown, N. Y.
Loevenhart, A. S., Madison, Wis.
Mason, Frederic S., New York.
McCormack, Arthur T., Bowling Green, Ky.
McCormack, J. N., Bowling Green, Ky.
Megrail, W. P., Wheeling, W. Va.
Motter, Murray Galt, Washington, D. C.
Oakman, C. S., Detroit.
Peters, LeRoy S., Silver City, N. Mex.
Remington, Joseph P., Philadelphia.
Riley, C. M., Alton, Ill
Seymour, W. H., Charles City, Ia.
Simmons, George H., Chicago.
South, Lillian H., Bowling Green, Ky.
Stewart, F. E., Philadelphia.
Thrush, M. Clayton, Philadelphia.
Wescott, W. C., Atlantic City, N. J.
Wheatley, F. G., N. Abington, Mass.
Whelpley, Henry Milton, St. Louis.

Pathology and Physiology

Albert, Henry, Iowa City Iowa.
Baughman, Greer, Richmond, Va.
Beates, Jr., Henry, Philadelphia.
Black, Stanley P., Pasadena, Cal.
Buhman, Rudolph, St. Louis.
Christian, Henry A., Boston.
Councilman, W. T., Boston.
Darling, Samuel T., Ancon, Canal Zone.
Dewey, Grace, Jacksonville, Ill.
Erlanger Joseph, Madison, Wis.
Evans, Newton, Nashville, Tenn.
Fisch, C., St. Louis.
Frazer, T. R., Commerce, Mo.
Gould, Charles W., St. Louis, Mo.
Gradwohl, R. B. H., St. Louis.
Greene, Marie A., Kansas City, Kans.
Guthrie, C. C., St. Louis.
Hall, Frank J., Kansas City, Mo.
Hall, Winfield S., Chicago.
Harris, D. L., St. Louis.
Henderson, Yandell, New Haven, Conn.
Herald, Arthur A., Shreveport, La.
Herrick, Harold C., St. Louis.
Hirschfelder, Arthur D., Baltimore.
Hodsdon, B. F., Guthrie, Okla.
Hultgen, J. F., Chicago.
Jackson, C. M., Columbia, Mo.
Jennings, M. Dwight, St. Louis.
Jones, R. L., Nashville, Tenn.
Kelly, Patrick H., Chillicothe, Ill.
Kennedy, J. J., Frankford, Mo.
Kleuk, Charles L., St. Louis.
Le Count, E. R., Chicago.
Litterer, Wm., Nashville, Tenn.
Lusk, Graham, New York.
MacCallum, W. J., New York.
MacCarty, Wm. Carpenter, Rochester, Minn.
Mallory, Frank B., Boston.
Marchildon, John W., St. Louis.
McConnell, Guthrie, St. Louis.
McVey, Newton, Jefferson City, Mo.
Mullin, R. H., Minneapolis, Minn.
Opie, Eugene L., New York.
Orndoff, Benjamin H., Chicago.
Robertson, H. E., Minneapolis.
Robinovitch, Louise G., New York.
Seymour, Eleanor, Los Angeles.
Simonds, James Persons, Indianapolis.
Smith, Claude A., Atlanta, Ga.
Southard, E. E., Cambridge, Mass.
Stanley, O. O., Urbana, Ill.
Stewart, Edward L., Kansas City, Mo.
Terrill, James J., Galveston, Texas.
Thompson, Ralph L., St. Louis.
Tiedemann, E. F., St. Louis.
Tyzzer, Ernest E., Wakefield, Mass.
Wallace, George B., New York.
Ward, Henry B., Urbana, Ill.
Warthin, Aldred Scott, Ann Arbor, Mich.
Watson, E. L., Newport, Ark.
Weil, Richard, New York.
Welch, William H., Baltimore, Md.
Wells, H. Gideon, Chicago.
Wiggers, Carl J., Ann Arbor, Mich.
Wilson, Louis B., Rochester, Minn.
Woodyatt, R. T., Chicago.

Miscellaneous

The following failed to indicate preference for any section, or marked more than one on the registration card.

Ball, John H., Crystal Falls, Tex.
Bardeen, Charles R., Madison, Wis.
Bean, J. W., Tacoma, Wash.
Blair, V. P., St. Louis, Mo.
Bolton, John W., Iola, Kan.
Bonnot, Edmond, St. Louis.
Bracy, Rolla, Wellston, Mo.
Braunwarth, Anna M., Chicago.
Brieglet, C. F., St. Clair, Mo.
Burlingame, D. E., Elgin, Ill.
Calhoun, J. G., St. Louis.
Cantrell, G. M. D., Little Rock, Ark.
Carter, William A., Trenton, Ill.
Causey, G. A., Swifton, Ark.
Clark, E. Spencer, St. Louis.
Cline, Harry X., Marion, Ill.
Clinton, Bertha L., Paris, Ill.
Corr, Lucinda H., Carlinville, Ill.
Craig, Capt. Chas. F., U. S. A. M. Corps, Washington, D. C.
Crouch, E. L., Jacksonville, Ill.
Dawson, J. W., El Dorado Springs, Mo.
Dunavant, H. C., Osceola, Ark.
Early, C. S., Camden, Ark.
Eddy, W. J., Shelbyville, Ill.
Erdhaus, H. B., St. Louis.
Esselbruegge, F. C., St. Louis..
Ewing, Fayette Clay, St. Louis.
Farnsworth, D. B., Springfield, Mo.
Ferguson, H. M., Morris, Ill.
Fishman, C. J., Chicago.
Frank, F. Kourar, St. Louis.
Frauenthal, Henry W., New York.
Goldberg, David D., St. Louis.
Goodman, Thos. B., Cobden, Ill.
Grear, D. Watson, Jonesboro, Ill.
Greene, D. W., Dayton, Ohio.
Guthrie, J. R., Dubuque, Iowa.
Haas, Frederic J., Leavenworth, Kans.
Harris, J. E., Marshall, Mo.
Havens, A., New Philadelphia, Ill.
Hill, Charles L., Nashville, Tenn.
Hiller, Frank B., Jefferson City, Mo.
Hope, D. H., Cape Girardeau, Mo.
Huston, Edwin M., Dayton, Ohio.
Ihne, A. J., Fosterburg, Ill.
Jamison, Oscar A., Tuckerman, Ark.
Jefferson, H. A., Clintonville, Wis.
Jenkins, J. M., St. Peters, Mo.
Jungk, C. G. W., St. Louis.
Kane, David M., Sturgis, Mich.
Kuper, George H., St. Louis, Mo.
Leenheer, Cornelius A., Chicago.
LeWald Capt. L. T., Washington, D. C.
Lynch, Albert, Fairbury, Neb.
Mabee, J. J., Capt. Med. Corps, U. S. Army, Jefferson Barracks, Mo.
MacLellan, Chas., Chicago.
McAninch, D. L., Lamartine, Pa.
McCallister, Wm. A., Centralia, Mo.
McCully, James, Dixon, Mo.
McGaughey, Hugh F., Winona, Minn.
McKeenan, R. B. Fort Wayne, Ind.
Magie, Wm. H., Duluth, Minn.
Martin, John H., Chicago.
Mercer, W. H., Raymond, Ill.
Mick, W. H., Omaha, Neb.
Moffitt, W. R., West Lafayette, Ind.
Morgan, William Gerry, Washington, D. C.
Morse, M. R., Harvey, Ill.
Moyer, M. L., Hillsboro, Ill.
Neff, I. H., Foxborough, Mass.
Noltman, H. C., Jacksonville, Ill.
O'Hara, W. J. A., Bridgeport, Conn.
O'Reilley, Robert J., St. Louis.
Orr, H. M., La Salle, Ill.
Parker, A. W., Shenandoah, Iowa.
Pfeiffenberger, I. Mather, Alton, Ill.
Pillsbury, Henry C., U. S. Army, Washington, D. C.
Potts, Jerome D., St. Louis.
Pratt, Fred J., Minneapolis.
Pryor, James C., Washington, D. C.
Renner, F. A., Benld, Ill.
Riffey, J. H., Girard, Ill.
Robertson, Thomas, Steeleville, Ill.
Salmon, Wm. T., Oklahoma City, Okla.
Sander, Enno, St. Louis.
Sellers, Ira J., Birmingham, Ala.
Seybold, Ira W., Poplar Bluff, Mo.
Shillito, G. M., Pittsburg, Pa.
Shonkwiler, Joseph, Rockville, Ind.
Sisk, James A., Knoxville, Tenn.
Sperry, H. C., Hull, Ill.
Thomas, Chas. Rainey, Roodhouse, Ill.
Thompson, J. R., Bridgeport, Ill.
Tilly, W. T., Muskogee, Okla.
Timmons, James M., West Alexander, Pa.
Tompkins, Christopher, Richmond, Va.
Twitchell, James W., Belleville, Ill.
Venters, J. M., Portland, Tenn.
Wangelin, Hugo E., Belleville, Ill.
Weber, A. A., Bessie, Okla.
Westerman, C. M., St. Louis.
Whiteis, W. R., Iowa City, Iowa.
Woofter, A. J., Weston, W. Va.
Young, I. C., Lowes, Ky.

Simple Syrup in the Treatment of Wounds.—Renssen noticed that the workmen in sugar factories applied syrup in treatment of wounds, and this suggested that the syrupy consistency might be responsible for the good effects of balsam of Peru in the treatment of wounds. He was confirmed in this impression by the fact that equally good results are obtained with pure and adulterated balsam. A letter from Holland in the *Wiener klin. Rundschau*, April 3, states that Renssen has applied the simple syrup in 60 cases of various injuries, including compound fractures, and found that the lesions healed remarkably promptly and well. One very agreeable feature of the syrup treatment is that it can be washed off so readily.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ALABAMA: Montgomery, July 12. Chairman, Dr. W. H. Sanders.

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin.

COLORADO: Denver, July 5. Sec., Dr. S. D. Van Meter, 1723 Tremont Street.

CONNECTICUT: Regular, City Hall, New Haven, July 12-13. Sec., Dr. Charles A. Tuttle; Homeopathic, New Haven, July 12. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, July 12. Sec., Dr. T. S. Hodge, 19 Main Street, Torrington.

DISTRICT OF COLUMBIA: Washington, July 12-15. Sec., Dr. George C. Ober, 125 B Street, S. E.

INDIANA: Room 120, State House, Indianapolis, July 12-14. Sec., Dr. W. T. Gott.

KENTUCKY: Louisville, July 5-7. Sec., Dr. J. N. McCormack, Bowling Green.

MAINE: Augusta, July 19-20. Sec., Dr. F. W. Searle, Portland.

MASSACHUSETTS: State House, Boston, July 12-14. Sec., Dr. Edwin B. Harvey.

NEW HAMPSHIRE: Concord, July 6-7. Regent, Mr. H. C. Morrison.

NORTH DAKOTA: Grand Forks, July 5-7. Sec., Dr. H. M. Wheeler.

OKLAHOMA: Ione Hotel, Guthrie, July 12. Sec., Dr. Frank P. Davis, Enid.

RHODE ISLAND: State House, Providence, July 7-8. Sec., Dr. Gardner T. Swarts, 315 State House.

SOUTH DAKOTA: Lead, July 13-14. Sec., Dr. F. W. Freyberg, Mitchell.

UTAH: Salt Lake City, July 4-5. Sec., Dr. G. F. Harding, 310 Templeton Building.

VERMONT: Burlington, July 12-14. Sec., Dr. W. Scott Nay, Underhill.

WASHINGTON: Seattle, July 5. Sec., Dr. J. Clinton McFadden, People's Bank Building.

WEST VIRGINIA: Capitol Bldg., Charleston, July 11-13. Sec., Dr. H. A. Barbee, Point Pleasant.

WISCONSIN: Madison, July 12-15. Sec., Dr. John M. Beffel, 3200 Clybourn Street, Milwaukee.

Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 7-8, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 9, of whom 4 passed and 5 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Yale Medical School	(1907)	91.7
College of Physicians and Surgeons, Baltimore	(1909)	80.0
Columbia University, Coll. of Phys. and Surg.	(1908)	87.8
Albany Medical College	(1904)	91.8
FAILED		
Georgetown University	(1900)	71.9
Baltimore Medical College	(1909)	75.2
University College of Medicine, Richmond	(1907)	71.1
Laval University, Quebec	(1904) 55.4; (1909)	66.9

Arizona April Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, April 4-5, 1910. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 7, of whom 4 passed and 3 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
College of Physicians and Surgeons, Los Angeles	(1909)	84
University of Louisville	(1909)	75
Medico-Chirurgical College, Philadelphia	(1896)	81
Memphis Hospital Medical College	(1901)	79.2
FAILED		
Hospital College of Medicine, Louisville	(1897)	66.5
Omaha Medical College	(1896)	62.8
University of Tennessee	(1901)	56.8

Utah April Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, April 4-5, 1910. The number of subjects examined in was 16; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, of whom 3 passed and 1 failed. One candidate was licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1907)	91.8
Northwestern University Medical School	(1909)	82.9
Woman's Medical College of Pennsylvania	(1907)	87.9
FAILED		
Keokuk Medical College, Coll. of Phys. and Surg.	(1905)	68.8

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1908)	Illinois

Maine March Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, March 8-9, 1910. The number of subjects examined in was 10; total *number of questions asked, 90; percentage* required to pass, 75. The total number of candidates examined was 8, of whom 7 passed and 1 failed. One candidate was *licensed through reciprocity. The following colleges were* represented:

College	Year Grad.	Per Cent.
PASSED		
Baltimore Medical College	(1905)	83
Boston University	(1893)	75.6
Tufts College Medical School	(1907) 91.4; (1909)	78.6
Harvard University Medical School	(1899)	85
Laval University, Quebec	(1908) 75.5; (1909)	83.2
FAILED		
Laval University, Quebec	(1908)	70.8

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Michigan, College of Medicine	(1909)	Michigan

Massachusetts March Report

Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at the State House, Boston, March 8-10, 1910. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 74, of whom 37 passed, including 3 osteopaths *and 36 failed, including 3 osteopaths and* 10 non-graduates. One candidate did not complete the examination. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Medical School of Maine	(1884) 75; (1907)	79.7
College of Physicians and Surgeons, Baltimore	(1909)	76.6
College of Physicians and Surgeons, *Boston*	(1908)	80.2
Boston University	*(1882) 79.3; (1909)*	75
Harvard Medical School	*(1907) 75; (1908) 78.4, 79.5; (1910)*	75.9, 82.2.
Tufts College Medical School	(1905) 75.9; (1907) 78.4; (1908) 75, 75, 78.7; (1909) 75, 75, 75, 75, 78.9, 79.5, 80.2.	
Columbia Univ., Coll. of P. & S.	(1908) 84.2; (1909)	79.1
Dartmouth Medical School	(1909) 77.4, 78,	82.3
University of Pennsylvania	(1906)	83.1
University of Vermont	(1909) 77,	77.1
McGill University, Quebec	(1905) 83.6; (1909)	84
University of Athens, Greece	(1898)	75
FAILED		
Howard University	(1909)	66.4
Medical College of Georgia	(1901)	35
Maryland Medical College	(1909)	67.8
Baltimore University	(1906)	56.5
Baltimore Medical *College*	(1904)	59.2
College of Physicians and Surgeons, Baltimore	(1909)	70.3
Harvard Medical School	(1909)	67.8
College of Physicians and Surgeons, Boston	(1908) 58, 58.8, 59.2, 60.1, 60.5; (1909) 53.7, 63.9, 65.2, 67.2.	
Tufts College Medical School	(1909)	63.3
Leonard School of Medicine	(1908)	63.5
Eclectic Medical Institute, Cincinnati	(1879)	51.4
University College of Medicine, Richmond	(1907)	64.4
Laval University, *Quebec*	(1904) 59.7; (1909)	55
University of Naples, Italy	(1906)	64.4

Connecticut Eclectic March Report

Dr. Thomas S. Hodge, secretary of the Connecticut Eclectic Medical Examining Board, reports that at *the meeting held* at New Haven, March 8, 1910, one candidate, a graduate of the Eclectic Medical Institute, 1886, was licensed through reciprocity with Colorado.

Connecticut Homeopathic March Report

Dr. Edwin C. M. Hall, secretary of the Homeopathic Medical Examining Board of Connecticut, reports the *written examination held in* New Haven, March 8-9, 1910. The number of subjects examined in was 7; total number of questions asked, 70: percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1909)	76.5, 79.9
Boston University	(1897) 85.4; (1905)	75.3
New York Homeopathic Medical College and Hosp.	(1903)	78.8
Hahnemann Med. Coll. and Hospital, Philadelphia	(1904)	85.6

FAILED

College	Year Grad.	Per Cent.
Atlantic Medical College	(1909)	69

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The Opposition to a Department of Health

Last week, in the Correspondence Department, we published a letter sent to the newspapers by Prof. Irving Fisher, in behalf of the Committee of One Hundred on National Health. In that letter a reference was made to Bulletin 41 of the Committee of One Hundred. This bulletin is so good that we reproduce below the major portion of it:

COMMERCIAL INTERESTS OPPOSE NATIONAL DEPARTMENT OF HEALTH

Judge Lindsey, in his famous articles on "The Beast in the Jungle," has shown how human life and child welfare are ruthlessly sacrificed to commercial interests. The same is true on a far broader scale. One cannot touch the problem of public health at any point without encountering the opposition of commercial interests. The old efforts of the merchants of San Francisco to suppress the news of bubonic plague, and of the merchants in southern states to suppress the knowledge of yellow fever, are classical instances. But those who are familiar with health work run into such instances repeatedly. Dr. Wiley pointed out at the congressional hearing in favor of the Owen bill for a department of health that a health officer cannot develop properly unless he is in an environment in which health is the main interest. It is small wonder that the commercial interests do not want an independent department of health. They feel safer with a bureau of health, located in a department devoted to commercial interests. Our principal health bureau is now located in the Department of the Treasury, which is—as it should be—more devoted to financial than to hygienic considerations. Our next important health bureau is that which dispenses the Food and Drugs Act in the Department of Agriculture, which is *another commercial* department. The plans for transferring the health bureaus to any other of the existing departments, such as the Department of Commerce and Labor or the Department of the Interior, also have the weakness that these departments are dominated by commercial interests.

"THE BEAST IN THE JUNGLE"

Judge Lindsey is not the only one who has seen the "Beast in the Jungle." The advocates of the Owen Bill to establish a national department of health have suddenly encountered in their jungle a wolf in sheep's clothing. As in Judge Lindsey's article, at first the "beast" is not visible, but instead some very respectable, but misguided, people appear on the scene as officers of and sponsors for a so-called "National League for Medical Freedom."

This "League" has organized opposition to the establishment of a national department of health, large advertisements having recently appeared in New York, Washington, and other newspapers, although they have been taken as a joke in and out of Congress. The advertisement tries to create the impression that the movement is one of a "medical trust," attempting to control the practice of medicine. Mr. Charles W. Miller, an Iowa State representative, has been in Washington trying to bring influence to bear on congressmen. Mr. B. O. Flower, a Christian Scientist editor, is president of the League.

They seem to have overlooked the fact that the federal government has no power to regulate the practice of medicine, or to restrict medical freedom, even if this were intended, which it is not.

Previous to the appearance of this wide-spread and expensive advertising, Mr. Miller had been loudly stating that the movement for a department of health had no strength. Why, then, the need of so much effort to combat it? It is estimated that their advertisements are costing somebody $25,000 a day. At this rate, in two or three days they spend more than the American Health League, which has been a potent factor in the movement for the establishment of a national department of health, has spent in the three years of its existence. The same Mr. Miller has criticised the Committee of One Hundred on National Health, which forms the nucleus of the American Health League, for trying to raise a campaign fund, and for suggesting that the government should spend more money on public health. The expenditures of Mr. Miller's "League" not only greatly exceed ours, but include three items which we have never included among our expenditures: viz., for the purchase of newspaper space, for the purchase of articles, and for the purchase of the services of legal representatives to appear at the congressional hearings.

The league for "Medical Freedom" is said to consist of Christian Scientists, osteopathists, homeopathists, eclectics and antivivisectionists. The advertisements state that to join the league no fee is required. Yet they are able to carry on an immensely expensive campaign. Are they willing to state the sources of their income? Simultaneously with the formation of the league, health writers have been approached and offered large sums of money to write against the Owen Bill for establishing a department of health. One writer refused what he believed was an opportunity to make two thousand dollars in this way.

TAX PAYERS' LEAGUE

This attack from the "National League for Medical Freedom" has such a family resemblance to various other attacks, on a smaller scale, which have appeared during the last few years, that we have rummaged through our files for the sake of comparison.

Like Lindsey's "beast," ours seems to have made its first appearance in Denver. The first among our curiosities of "medical" literature was a venomous pamphlet by a notorious quack of Denver, and purporting to represent the "Colorado Medical Liberty League, an organization numbering 1,300 enrolled members who are tax-paying citizens."

This title bears a striking resemblance to the "National League for Medical Freedom" and its associated tax payers' leagues, which have at the same time, and within a few days of each other, been "organized" in a dozen or more states. While nominally written by a "drugless" doctor, this pamphlet singles out for attack those men and magazines, such as *Collier's* and the *Ladies' Home Journal*, that have fought quackery and the "patent-medicine" evil, and have championed the pure food law.

The following quotations show its animus against pure foods and drugs:

> *Question:* What is the attitude of the Committee of One Hundred in regard to the adulteration of food stuffs and the substitution of drugs as commonly practiced by many commercial concerns?
>
> *Answer:* It is against all concerns that do not give the finance committee a rake-off.
>
> *Question:* What is the attitude of the Committee of One Hundred towards injurious "patent-medicines?"
>
> *Answer:* It is dead set against all patents which do not contribute to the trust's pocket.
>
> *Question:* Do any members of the Committee of One Hundred receive salaries or other remuneration?
>
> *Answer:* Nay, nay, that would spoil our game. They will be taken care of later.
>
> *Question:* How can additional information, including printed matter issued by the Committee of One Hundred, be obtained?
>
> *Answer:* In car lots or less, F. O. B., New Haven, Conn.
>
> *Question:* What are the publications and pamphlets now or formerly distributed by the Committee of One Hundred?
>
> *Answer:* They are too numerous to mention—mostly devoted to "exposing" quacks. A quack is any one who is not orthodox according to the dictum of the medical trust.
>
> *Question:* Why must an organization of citizens be formed to protect the public health?
>
> *Answer:* Because that is the only way we can fool the suckers into continuing to take patent medicines only as doctor's prescriptions.

This pamphlet refers to the American Medical Association as a "trust," and composed of "old school fanatics," takes sides with eclectics, osteopathists, spiritual healers, etc., and ends with the following statement: "If the public does not want to be bulldozed by the medical trust, it will at once file its protest against a national bureau of medicine by writing individual letters to congressmen, promising to vote out of office all who vote for such a bureau."

In his speech before the Senate, May 25, Senator Owen said:

> I am informed that the sudd[illegible] interest of the "taxpayers and voters" of the [illegible] are organized in this artificial manner and the [illegible] or manifested of the "homeopaths" and of the [illegible] the "eclectics" and of the great variety of those who have special views with regard to the various methods of healing the sick has taken place

within seven days, and like a flash of lightning telegrams are coming in from Maine to California. The chairman of the Committee on Public Health and National Quarantine of the Senate received a very large number of them. Such sudden universality of disapproval of a department of public health on such an unsound theory is astounding; it is more, it is extremely suspicious; it is obviously artificial; it is perfectly apparent that somebody is spending a very large amount of money on this sudden propaganda; it can hardly be doubted that somebody, in gross error, is advising the "homeopaths," the "osteopaths," the "eclectics" that their right to practice medicine is about to be invaded by the federal government.

THE NATURE OF OUR OPPOSITION

Another pamphlet is entitled, "The Political Doctors' Slick Little Joke,—On Congress, on the States, the Pure Food and Drugs Act, and the People." The writer attempted to establish the thesis that the Committee of One Hundred is the tool of the American Medical Association and of the Catholic Church! He quotes scripture to prove this. He distributed a sizeable booklet entitled "Roosevelt Steam-Rolled by the Bible." He shows that the Committee of One Hundred on National Health was prophesied in the Bible and that the "medical arm of papacy is really the pivot on which the old earth of error is to swing into the new heaven and new earth of revelation." In a letter in reference to his book he says, "You may be surprised to know that Taft can be identified in the Bible in more places than the place indicated in my book—the other places are not yet made public. The subleties of the science of medicine and of philosophy are to be confronted by the subleties of the Bible."

The author of these curious aberrations of mind adds in a postscript, "I want to say if you have any intention of getting me committed to the Government Hospital for Insane, you will be foiled."

This insane literature seems of a piece with the literature of the "National League for Medical Freedom." But now these people seem to have found a barrel of money with which they are "moulding" public opinion. It is easy to understand how quacks and nostrum vendors may object to the national pure food law which they are seeking by every means to undo; but it is sad to see reputable and earnest men unwittingly made tools of, and still sadder to see other reputable men sell their services as paid attorneys, and to see writers—unconsciously though it be—prostitute their abilities in the interest of those vampires who feed on illness and prey on the public health.

"LICENSE THEY MEAN, WHEN LIBERTY THEY CRY"

The New York *Times*, which made the mistake on May 17 of printing the advertisement of the "League for Medical Freedom," corrected it on the 18th by the following strong editorial:

"Medical Freedom"

> Makers of "patent medicines," adulterators of drugs, and practitioners of the cults of mental and osteopathic healing are up in arms. They have persuaded a few well-intentioned but misled individuals to join them, and have formed the "National League for Medical Freedom" to oppose the efforts of practically all the reputable physicians in the country to consolidate the agencies of public health at Washington into one efficient department or bureau.
>
> These efforts have been waxing stronger. The men of the American Medical Association and of the Committee of One Hundred on National Health, sanctioned by the Association for the Advancement of Science and headed by Prof. Irving Fisher of Yale, have won the approval of the entire press of the United States in urging the passage of their bill. In the various departments and bureaus of the federal government are lodged powers that cannot be wielded effectively until they shall be coordinated under one head. Once united, they can be used in a great propaganda for educating the people against the habit of self-dosage and a resort to quack medicines for their ailments. By a campaign of prevention the bureau would break the prevalence of epidemics and infections between the states. It would work for the passage of laws that would guard the channels of interstate commerce against the admission of adulterated drugs, and for the establishment of standards of purity and strength that would be copied by the states and cities of the nation.
>
> The self-styled "League for Medical Freedom" quotes Professor Fisher accusingly as having said that the government might soon be appropriating millions yearly for the conduct of this bureau. If it should appropriate a million for every hundred thousand it now appropriates for the protection of the health of hogs and of cattle in the United States, Professor Fisher's prophecy would be fulfilled, and no one would have cause for complaint but these friends of "freedom." Their cry is an old one and well understood.
>
> "License they mean, when liberty they cry."

WHENCE COME THE FUNDS?

The opinion expressed in this editorial is general. It is fair to say that the well-intentioned leaders in this League for "Medical Freedom" doubtless do not realize the situation in which they are placed. They may be correct in their denial that their "League" is being financed by "patent-medicine" interests, but they have not yet disclosed specifically the sources of their funds. Requests so to do have thus far been unanswered. From appearances they have spent more in one day than our committee has spent in a year.

Whatever the source of their funds there can be no doubt that a virtual alliance exists between this league and the purveyors of "patent-medicines" and the opponents of the pure food law.

On the advisory board of the new league is the editor of the organ of the National Association of Retail Druggists, controlled by the members of the "American Druggists' Syndicate" or the "drug trust," which has been so hand-in-glove with the quack medicine interests that many hundreds of its members resigned last fall in protest.

A congressman, on looking up the occupations of the signers of telegrams against the Owen Bill, found a liberal sprinkling of "patent-medicine" proprietors and vendors.

In this unholy and anomalous alliance between "Christian Scientists" and quack medicines are included the services of some newspapers that rely for revenue on quack advertising. (See our bulletin on "A Century's Criminal Alliance Between Quacks and Some Newspapers," by C. S. Andrews).

COINCIDENCES

It may be a coincidence, but simultaneously with the appearance of this "league" in Washington, the same lobbyists who had fought the pure food law also appeared, although not publicly. It may also be a coincidence that at about the same time a certain noted writer on health was offered a large sum of money to write articles to "kill the Owen Bill." Those who approached him for this purpose reluctantly admitted, after first alleging that they represented Christian Scientists, etc., that the "patent-medicine" interests were also behind them.

It may also be a coincidence that one of these afterward acted as an agent to place the advertisement of the "League for Medical Freedom."

It may also be a coincidence that this vigorous effort to prevent the creation of a department of health began immediately after the issue by the Department of Agriculture of a bulletin by Dr. Keber against nostrums, in which—for the first time in history—the names of the "remedies" to be avoided were printed. It would not be strange if the firms that were thus hit hard by the Department of Agriculture should not want to be hit harder, as they might be and ought to be, by a department of health.

It may be a coincidence that at this same time a newspaper now actively opposing a National Department of Health sent a reporter to one of the officers of the Committee of One Hundred to inquire what the committee expected the new department of health to do, and whether, perchance, the committee knew of the nostrum report just made.

It may also be a coincidence that a chemist, interested in food adulteration, came at almost the same time to ask almost the same question.

MISCONSTRUCTION OF FACTS TO MISLEAD READERS

The eagerness of those who construct these advertisements to mislead is illustrated in many ways. For instance, they have utilized a misprint in the report of one of the hearings as follows:

> *Question:* What is the Committee of One Hundred?
>
> *Answer:* One of its members, Hiram J. Messenger, when asked this question by Senator Crawford of South Dakota (Senate Hearing Owen Bill Page 30) stated, "The Committee of One Hundred is a committee that was appointed by the American Medical Association for the Advancement of Science."

The word "medical" was obviously a slip of the tongue or of the pen. No one ever pretended before that there was any connection between the American Medical Association and the American Association for the Advancement of Science!

MEDICAL CULTS

"The League for Medical Freedom" does not seem to really represent the leading members of the schools of medicine they claim to represent. The foremost members of these various cults have openly favored the Owen Bill. Dr. J. B. Gregg Custis, a homeopath who spoke in favor of the bill, is chairman of the Board of Medical Examiners of the District of Columbia and ex-president of the American Institute of Homeopathy as well as of the International Congress of Homeopathy. Mr. George H. Shibley, a prominent lawyer of Washington, whose wife is an Osteopathist practitioner and who is himself the attorney of this system of healing before committees of Congress, favored the bill and among other things said:

> As a citizen and a lawyer, I am deeply interested in the establishment of a national health department. *Possibly I can help to dispel some of the fears of those who, in other ways, have come into conflict with the American Medical Association.*
>
> There is no possible way whereby any medical sect can secure national health regulations that will interfere with the states'

control of the licensing of the competing schools of healing. It follows that the osteopathic physicians, the homeopathic physicians and the eclectic physicians are in no danger from a national health department.

REAL PURPOSE OF DEPARTMENT OF HEALTH

A department of health has really nothing to do with the medical art. It is really for the purpose of preventing diseases by preventing the pollution of streams, by preventing the adulteration of foods, by preventing the importation of bubonic plague and yellow fever, by investigating health conditions and disseminating information. It has been proved that there are over half a million premature deaths yearly in this country. The Owen Bill, if passed, would ultimately prevent a large proportion of these.

From Owen's Senate Speech: As the author of this bill I wish to say that I believe the more a man knows about the laws of health the less drugs he takes. I have employed homeopaths and osteopaths and allopaths as well to treat myself and the members of my family. I have studied the doctrine of suggestive therapeutics and of Christian Science with great interest and respect, and cordially indorse Horace Fletcher as the best doctor of them all. I stand firmly for medical freedom and for the right of the citizen to select his own medical or spiritual adviser.

THOSE WHO WANT A DEPARTMENT OF HEALTH

The principle of the Owen Bill, establishing a department of health, has been endorsed by the President of the United States, by the surgeon-generals of the Army, of the Navy, and of the Public Health and Marine-Hospital Service, by Dr. H. W. Wiley of the Bureau of Chemistry, by the governors of states, by the Conference of State and Territorial Boards of Health, by the American Medical Association, by the American Public Health Association, by the United Mine Workers of America, by the National Grange, by the Republican and Democratic platforms, and by numerous other organizations.

Life-insurance companies, who advocate this bill, certainly have no desire to limit medical freedom and repress any system which offers the chance of lengthening human life. They have no medical partisanship, and their sole interest is to lengthen life by whatever means possible. Their actuaries state specifically that they believe human life could and would be lengthened by the establishment of a health department.

GENERAL WYMAN FAVORS DEPARTMENT

At the May 19th hearing on the Owen Bill, General Walter Wyman, Surgeon-General of the Public Health and Marine-Hospital Service, came out strongly and firmly in favor of establishing a national department of health. General Wyman has hitherto been non-commital, and the opinion had been entertained generally that he was opposed to the measure.

THE "MEDICAL TRUST"

The American Medical Association has trod on many toes in its efforts to get state legislation enacted. It is natural that enemies thus made should strike back. But in attacking national legislation they are "barking up the wrong tree." Moreover, a great injustice is being done the American Medical Association. It is not a "trust." No one will deny that it includes in its membership the best and ablest men in the profession. It has tended to liberalize rather than to narrow medical ethics and practice. While it has aimed at restrictions, the object has been to prevent the vicious and harmful quack and charlatan from plying his nefarious trade. Naturally it is not infallible, and has doubtless made mistakes, but the present attack on it will be resented by the large public who appreciate the work of the medical profession, as well as by all who believe in fair play.

AMERICAN HEALTH LEAGUE MEMBERS SHOULD HELP

It is important that every member of the American Health League should know that a fight is on. Against us are arrayed the leagues of "freedom," the quack medicine interests, the newspapers allied (by advertising) therewith, and the able attorneys and editors they employ. On our side are President Taft, ex-President Roosevelt, political party platforms, medical, hygienic, scientific, educational, philanthropic, insurance, labor, and grange organizations. While intrinsically we have infinitely the stronger side, our enemies have the great advantage of money. The situation is as serious as in a political campaign in which the forces of evil and money so often triumph. It is another case of the people against the special interests. Each loyal member of our league, and each loyal citizen who reads these lines, should do his part, namely, contribute, if possible, to the expenses of conducting this campaign for establishing a national department of health, and write to congressmen urging their favorable consideration of the Owen Bill

Medicolegal

Requirements and Rights of Applicants for Examination—Power of State Board to Determine What Are Reputable Medical Colleges

The Supreme Court of Missouri says, in the case of State, on the relation of Abbott and others, vs. Adcock and others, constituting the State Board of Health (124 S. W. R. 1100), that a reading of Section 1 of an act approved April 4, 1907, shows that it requires three things of each applicant who desires to be examined touching his qualifications to practice medicine and surgery in Missouri: First, that he shall make application in writing to the secretary of the board 30 days before the meeting thereof; second, that he furnish to the board satisfactory evidence of his scholastic qualifications as therein provided for; and, third, that he shall also furnish to the board satisfactory evidence of having received a diploma from some reputable medical college of four years' requirements at the time of his graduation.

While the act mentioned does not undertake to state what medical colleges are or what are not reputable within the meaning thereof, by clear implication it leaves that question for the determination of the Board of Health. This is made manifest by the act requiring the proof of reputableness to be furnished to the board when the applicant presents himself for examination, and by withholding from the board the authority to issue the license until such satisfactory evidence is furnished. In the court's opinion the language of this act is susceptible of no other construction than that it placed the burden on the relators, when they presented themselves for examination before the board, to prove to its satisfaction by satisfactory evidence the reputableness of Barnes University, and especially the medical department thereof.

If the court correctly understands the position of counsel for the relators, they did not controvert the soundness of the conclusions above stated, but contended that, under the laws of Missouri, "the State Board of Health has no authority to adopt and promulgate fixed rules and regulations as the standard by which the various medical colleges of this state will be adjudged reputable or non-reputable within the meaning of the statute relating to the practice of medicine and surgery. The word 'reputable,' as applied to medical colleges, means reputation, and must be proved in the same way." But, in the court's opinion, counsel misconceived the meaning and object of the rules and regulations adopted by the Board of Health fixing the standards by which various medical colleges would be adjudged reputable within the meaning of the act under consideration. The rule simply provides that all medical colleges, wherever located (and not simply those situate in Missouri), which should, on or before Oct. 1, 1907, conform to the standards specified in the schedule of minimum requirements adopted by the board on July 11, 1907, "should be rated and classified as accredited and reputable, and whose students, after being graduated therefrom, should be admitted to the examination of the State Board of Health for licenses to practice medicine and surgery in the state of Missouri," without being required to furnish other proofs of reputableness, and thereby save each of them the time and expense of furnishing the proofs required of them by said act. In other words, the board, by such rules, undertook to require all medical colleges to adopt such standards as would establish and prove their reputableness in all cases, and thereby remove those burdens from each student who applied for a license, as provided by said act. But said rules of the board do not provide that no graduate from any medical college which has not conformed to those requirements shall not be examined touching his qualifications to practice said professions. This construction seems to have been adopted subsequent to the origin of this controversy. Neither rule nor board is responsible for it.

In the court's opinion, since the act left it to the board to pass on the reputableness of all medical colleges whose graduates applied to it for examination, and to determine the character of the evidence by which said fact was to be established, said rules were not only reasonable and just, but were also wise and proper. All medical colleges and their students were thereby notified in advance as to what would satisfy the board as to the reputableness of each college. The diploma alone from all colleges which had adopted those standards would entitle the holder thereof to take the examination without further ado. Otherwise many students might innocently be induced to attend colleges which were not, in fact, reputable, and consequently such students would thereby be prevented from establishing their reputableness. In all such cases a great hardship would be visited on all such graduates, but under these rules of the board no injustice could be done to any college or graduate thereof. And, beyond that, the adoption of said standards by the board, and the direct tendency thereof, if the colleges will only conform thereto, would be to uplift and better medical instruction, place her institutions of learning on a higher plane, and reduce the practice of medicine and surgery to a more perfect science, all of which would result in great good to suffering humanity.

But suppose, for argument's sake, that the court is in error in its views regarding the meaning and object of the rules of the board establishing said standards, and that it was the intention of the board to thereby notify, in advance, all persons who might present themselves for examination for licenses to practice medicine and surgery that it would examine no one except those who presented a diploma from some one of the medical colleges which had adopted said standards. That would not excuse the applicant for examination from tendering to the board such evidence as he might have tending to prove that his alma mater was a reputable school within the meaning of the statute. The rule would be illegal and void, and would constitute no legal bar to the applicant's right to stand the examination for his license. Nor could the adoption of such a rule be construed to mean that the board had thereby refused to examine a particular person for a license to practice medicine. The board might change its mind before the date fixed arrived, and before being called on to act. As long as a man or a body of men fill any official position, the law presumes he or they will perform his or their duties whenever any matter is legally presented for action, notwithstanding general declarations previously made to the contrary.

If the relators possess the necessary scholastic attainments and diplomas from some reputable college, and if they can produce before the Board of Health satisfactory evidence of the reputableness of said college, then doubtless the board will, on proper request, give them an examination, as provided for by the act of 1907, and, if found qualified, will presumably issue to them licenses. But if, after such showing, the board should unjustly and arbitrarily refuse to examine them, it would then be time enough to institute mandamus proceedings to compel it to act.

Validity of Note Given for Medical Services to Unlicensed Person

The Appellate Court of Indiana, Division No. 1, says, in Hill vs. Ward (91 N. E. R. 38), a suit on a note made payable to one Doremus and transferred before maturity by indorsement, that a good defense was stated by allegations that the note was given for medical services rendered by a person who was not entitled to receive pay for such services. The Indiana statutes make it a misdemeanor for any person to practice medicine without a license duly issued under the laws prescribed. This being true, the act of Doremus in treating the defendant was an illegal act, and the receipt of the note for such services was a part of such illegal act. It is a well-settled rule of law that business transactions in violation of law, or which involve the commission of a crime or misdemeanor, cannot be made the foundation of a valid contract, and any contract so made is void, and a recovery for services thereunder cannot be had. Cooper, Adm'r, vs. Griffin, 13 Ind. App. 212; Orr vs. Meek, 111 Ind. 40. The cases cited apply the rule to the right to recover for services in the practice of medicine without a license. So the averment showing that the note was given as a part of an illegal contract was a sufficient answer to the complaint, and put the burden on the plaintiff to show his right to recover, notwithstanding the illegality in its execution.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

June 11

1 Natural Selection and our Viscera. R. G. Eccles, Brooklyn.
2 Errors in the Search for the Gonococcus in the Vaginitis of Children. I. Van Gieson, New York.
3 Therapeutic Possibilities of Direct Blood Transfusions. J. A. Hartwell, New York.
4 Benign Obstruction of the Pylorus. J. G. Wells, New York.
5 Cerebrospinal Meningitis of Fulminating Type. S. H. Brown, Philadelphia.
6 A New Gastroscope. M. Einhorn, New York.

Boston Medical and Surgical Journal

June 16

7 *Cardiac Syphilis. G. G. Sears, Boston.
8 *Treatment of Inebriety. I. H. Neff, Foxborough, Mass.
9 *Tuberculous Peritonitis. A. E. Stone, Boston.

7. **Cardiac Syphilis.**—Sears believes that a noteworthy percentage of the patients die suddenly without previous manifestations of ill health, and that numerous others are conscious of little or no cardiac disturbance until a period of overwork or possibly some special effort, which often seems no greater than what they have been accustomed to make without discomfort, leads to an upset of the cardiac balance, with a rapid development or even an immediate onset of urgent symptoms. This may be shown by an attack of which tachycardia accompanied by great anxiety and mental distress is the most striking symptom, or by the usual signs of myocardial insufficiency, dyspnea, precordial discomfort, etc., which may be soon followed by general passive congestion, edema and ascites. Severe headache and vomiting are not uncommon early symptoms. A striking peculiarity of many of these cases has been the lack of response to rest and cardiac stimulants in spite of the fact that one is dealing with the first breakdown. While a certain amount of relief may be obtained, results are often disappointing. Relapses easily occur from what seem inadequate causes.

8. **Treatment of Inebriety.**—Based on the examination of 700 cases of inebriety, Neff claims that inebriety is an expression of nervous weakness or nervous instability; used in its simplest sense it could be called a psychoneurosis, many cases showing symptoms which are found in neurasthenic states and allied conditions. Addiction to alcohol is a symptom of an unstable nervous system, and the contrary view expressed by the laity is not justified by clinical observation or experience. The exciting causes of inebriety, he says, are of physical and psychologic origin. Given a neurotic subject, crises may be precipitated by any marked departure from the ordinary routine (psychologic) or by any disturbance of organic nature (physical). Inebriety is prone to develop as a frank case at the critical epochs of life, namely, pubescence, adolescence and involution. Developing during involution, it is generally the effort of an individual to maintain his productive power by recourse to artificial stimulation. The frequent inception of inebriety at these periods suggests an analogy to the psychoneurosis. Inebriety, being an expression of neuropathy or psychopathy, may be preceded by or accompanied with a multiform nervous syndrome; thus each case is essentially different.

The heredity element in inebriety is considerable and is undoubtedly a powerful predisposing cause. A history of decided intemperance in the parents existed in over 40 per cent. of Neff's patients, while 15 per cent. gave a history of defective ancestry, insanity, neuropathy, drug addiction or tuberculosis being present on the maternal or paternal side. Approximately, 5 per cent. of the patients showed preexistent mental symptoms which could be differentiated. Some of these were distinct cases of psychasthenia, others were of the milder forms of manic-depressive insanity. Neff feels warranted in corroborating the statement made by others that an inherited neurotic or psychic tendency is present in a considerable number of inebriates. Many of these individuals admit peculiarities during pubescence and adolescence, showing clearly neurotic or psychopathic conditions which have antedated the alcoholic manifestation.

9. **Tuberculous Peritonitis.**—Stone asks that we treat tuberculous peritonitis as respectfully as though one had found tuberculous infiltration in the lung top. The patient is infected with tuberculosis; treat him with the best hygienic surroundings that are possible: above all, rest and restraint at first, and then very gradually increasing exercise. If ascites is present, do not be in a great hurry for it to disappear. It may do so spontaneously. Great distention needs relief, of course, either with the aspirator or the aid of the surgeon. When the turn for the better comes, the patients begin to improve in a most remarkable manner. There is no reason why the patient should be withheld from any legitimate operation that may come up in the course of the disease. The disease is tuberculosis and the prognosis is favorable in the simple, uncomplicated cases of serous involvement. When the lung or other distant organ is also involved, the favorable prognosis rapidly diminishes. But in the true cases of tuberculous peritonitis in which no other focus can be demonstrated, the chances of ultimate arrest under properly conducted hygienic treatment are good. They are not enhanced by surgical intervention without distinct purpose, and any such operation must be treated not as itself curative, but as a step or incident of the "cure."

New York Medical Journal

June 18

10 Conditions Pertaining to the Safe-Guarding of Early Life from a Pediatric Point of View. T. M. Rotch, Boston.
11 *Suprapubic Prostatectomy in Two Stages. H. Lilienthal, New York.
12 *Delayed Menopause. A. E. Gallant, New York.
13 The Teaching of Tuberculosis. A. P. Francine, Philadelphia.
14 The Nature of the Cancerous Process. O. Klotz, Pittsburg.
15 Field Operations Against Squirrel Plague in California. W. C. Rucker, Oakland.
16 Clinical Significance of Silent Fluids in the Thoracic Cavity. F. A. Jones, Memphis, Tenn.
17 *Malnutrition in Infancy and its Relation to Gastric Digestion. I. J. Tint and L. Breskman, Philadelphia.
18 Infection with *Balantidium Coli.* I. W. Brewer, Samar, P. I.

11. **Suprapubic Prostatectomy.**—In 16 cases, Lilienthal performed the operation of suprapubic prostatectomy in two stages. The average age of these patients was 71, the youngest was 52 years old, and the oldest 77. All except one left the hospital either entirely healed or with a superficial granulating wound. All were well so far as urination was concerned, and all who were questioned concerning sexual ability reported potency, most of them increased potency. In several cases a bacteriuria persisted for weeks or months after the operation, but it disappeared under long-continued hexamethylenamin medication. In this list of 16 cases the longest interval between the 2 stages was 20 days and the shortest was 2 days, average about 8 days. The average period of hospital treatment from the primary operation to the day of discharge was 38 days in the non-malignant cases.

12. Abstracted in THE JOURNAL, May 28, 1910, p. 1811.

17. **Malnutrition in Infancy.**—The examination by Tint and Breskman of the gastric contents of eleven children, mostly under 1 year of age, without vomiting or green stools, showed a constant presence of free hydrochloric acid, rennin and pepsin. Examination of the gastric contents of twenty children under 1 year of age, with green stools, vomiting, and gradual loss of weight, showed an absence of free hydrochloric acid, rennin, and pepsin. In well developed cases of malnutrition, such an absence of gastric activity was constant and persisted throughout the course of the affection.

The authors believe that the stomach very early in life plays an important rôle in digestion through its peptic and rennin activities. Free hydrochloric acid is normally present. With the onset of green stools in artificially fed and breast-fed children, there is an absence of free hydrochloric acid. The absence of gastric activity is relatively constant in children suffering from malnutrition. The milk should be carefully examined for the fat percentage, when such is taken into consideration in making up feedings, particularly in asylums for children.

Lancet-Clinic, Cincinnati

May 28

1[illegible] Sewage Disposal in Cincinnati. A. E. Osmond, Cincinnati.
20 Exercise and Health. I. O. Allen, Richmond, Ind.
21 Osteosarcoma of Fourth Cervical Vertebra Treated by Coley's Serum. F. H. Miketta, Cincinnati.
22 Value of Laboratory Methods to the Medical Student. W. B. Wherry, Cincinnati.

June 4

23 Neurotic Lithemia. R. R. Hopkins, Richmond, Ind.
24 Diagnosis and Management of Uterine Fibromata. S. H. Smith, Cincinnati.
25 Rheumatism in Children. W. H. Hawley, College Corner, Ohio.
26 Importance of Greater Thoroughness in the Teaching of Materia Medica and Pharmacology in Medical Schools. C. L. Graber, Cleveland, Ohio.

June 11

27 Conditions Simulating Gall-Stones. J. C. Sexton, Rushville, Ind.
28 Aids in Didactic Teaching. J. H. Jacobson, Toledo, Ohio.
29 The Etiology of Cataract. L. Strickler, Cincinnati.
30 Sociology and Eyestrain. G. M. Gould, Ithaca, N. Y.

Northwestern Lancet, Minneapolis

June 1

31 Serodiagnosis and Serum Treatment of Tuberculosis. R. Earl, St. Paul.
32 Surgical Tuberculosis. E. M. Lundholm, St. Paul.
33 Goiter. Special Reference to Borderline Cases of Hyperthyroidism. M. M. Ghent, St. Paul.
34 The Conservation of Human Resources: Special Consideration of Milk Investigation. J. L. Coulter, Minneapolis.
35 Symptoms and Treatment of Acute Anterior Poliomyelitis. T. Hatch, Owatonna, Minn.

Medical Fortnightly, St. Louis

May 25

36 Touring the Lands where Medical Science Evolved (continued). R. G. Eccles, Brooklyn.
37 Old Age. W. F. Waugh, Chicago.

Virginia Medical Semi-Monthly, Richmond

May 27

38 Fractures of the Base of the Skull. H. S. MacLean, Richmond.
39 Points in Bacterial Therapy. F. E. Stewart, Philadelphia.
40 Management of Fractures, Especially Compound Fractures. J. S. Ratdin, Portsmouth, Ohio.
41 Prevention in General Practice: A Plea for More Attention to Detail. R. K. Flannagan, Charlottesville.

June

42 Fracture Dislocation of the Shoulder Joint. A. R. Shands, Washington, D. C.
43 Treatment of Fractures After Reduction. C. S. White, Washington, D. C.
44 Early Mobilization in Treatment of Fractures. H. H. Kerr, Washington.
45 *Congenital Absence of the Rectum. W. H. Saunders, Roanoke.
46 Conditions Justifying Induction of Premature Labor. C. H. Kinnear, Tacoma, Wash.
47 Diagnosis of Gastric Ulcer. A. G. Coumbe, Vienna.
48 Are We Dying Out? J. G. B. Bulloch, Washington, D. C.

45. **Congenital Absence of Rectum.**—The diagnosis in this case of absence of rectum with sigmoid connecting by a small opening with the urethra at about the juncture of the membranous with the prostatic divisions was made from the following points: A discharge of bowel contents through the urethra; a normal penis, scrotum and perineum; absence of bulging of anus on pressure of the abdomen; first urine cloudy, the last and greater part clear, and the great amount of dissecting necessary to reach the bowel, which was found near the level of the promontory of the sacrum.

American Journal of the Medical Sciences, Philadelphia

June

49 Treatment of Intestinal Indigestion in Children on the Basis of the Examination of the Stools and Caloric Values. J. L. Morse and F. B. Talbot, Boston.
50 Treatment of Hemorrhage from Gastric Ulcer. J. Kaufmann, New York.
51 *Normal Human Blood Serum as a Curative Agent in Hemophilia Neonatorum. J. E. Welch, New York.
52 *Metabolism of Myasthenia Gravis, with Suggestion Regarding Treatment. R. Pemberton, Philadelphia.
53 Treatment of Spasticity and Athetosis by Resection of the Posterior Spinal Roots. W. G. Spiller, Philadelphia.
54 Pathogenesis of the Toxemia of Pregnancy. J. Ewing, New York.
55 Chronic Fam[illegible] [illegible]n, New Haven, Conn., and W. A. [illegible]
56 *Murmurs in [illegible] C. M. Montgomery, Philadelphia.
57 Solitary False Neuroma—Probably Non-Malignant. E. M. Foote, New York.

51. **Hemophilia Neonatorum.**—Under this name, Welch reports a series of cases which includes a number of bleeding babies, in which the etiology of the hemorrhages is unknown. In none of the cases was the hemorrhage due to traumatism. Welch found post mortem that the principal hemorrhage may be either in the brain with extensive laceration, or in the liver, in which case the capsule may be almost entirely dissected from the surface of the organ; hemorrhagic spots in other internal organs and effusions of blood in the various serous

cavities may be found. *In some instances* he found the spinal canal filled with fluid blood.

Case 1: The child was 3 or 4 days old when the bleeding began. Within 24 hours the body was black and blue from subcutaneous hemorrhages; there was a large hematoma occupying one-third of the scalp on one side of the head, and bleeding from the mouth and bowel. The case was thought hopeless. It was at this time Welch made the first injection of normal blood serum; 10 c.c. was administered subcutaneously three times during the first day and once each on the following two days. Within a few hours a decided improvement was noted in the condition of the baby, in that the hemorrhages ceased, the old ones began to fade, and strength returned to the child in a very noticeable way. Within three days the hematoma of the scalp was entirely absorbed, and it was evident that the child was out of danger.

Case 2: On the fifth day blood was found oozing from the vulva. During the sixth and seventh days bleeding was continuous. On the ninth day there was slight oozing from the umbilicus. There was no bleeding after the ninth day. Normal human serum was administered subcutaneously.. This baby left the hospital in due time in a normal condition.

Case 3: The child showed no bleeding until the seventh day. Then a dorsal division of the prepuce was made for phimosis. During the next *four days bleeding recurred about* every 4 hours, often profuse and difficult to control. There was profuse bleeding from the stump of the cord on the seventh day, which continued on the eighth and ninth days, when the stump was invaginated. On the eighth and ninth days there was bleeding from the lips *and gums, and on the tenth day* subcutaneous hemorrhages appeared on the face. Normal human blood serum was injected subcutaneously and the child recovered.

Case 4: On the second day there was slight bleeding from the nose and mouth and small hemorrhagic spots appeared on the arms and back. On the third *day* the hemorrhagic spots increased in size. On the fourth day profuse bleeding from the gums and from the bowels occurred. On the fifth day there was more bleeding from the mouth and rectum and more subcutaneous hemorrhages. On the seventh day more subcutaneous hemorrhages in three places on the body. Subcutaneous injections of normal human blood serum were begun. On the fifty-sixth day the baby died, and autopsy showed the cause to be persistent atelectasis of the lungs involving their posterior half. None of the tissues showed signs of hemorrhage.

Case 5: On the third day blood began oozing from the cord at its junction with the skin, and also from the foreskin, and there was copious bleeding from the nose. The stools were black, showing altered blood. A single injection of 10 c.c. of normal human serum was given, and within 6 hours the bleeding ceased and the stools on the following day were normal.

Case 6: On the second day the child began bleeding from the nose. On the third day it bled from nose and cord, and a large hematoma appeared on the back of the head and neck, extending from ear to ear. On the *fourth day there was bleeding from* the nose and gums and blood was passed in the stools. On the fifth day there was slight bleeding from the nose; one spot was noticed on the right knee and left elbow. Normal human serum was injected. There was no more bleeding after the fifth day and the child was discharged normal 13 days after.

Case 7: Bleeding from the cord and rectum began on the fourth day. On the fifth day bleeding from the vagina and rectum, and two subcutaneous hemorrhages appeared on the left side of the thorax. On the ninth day there was vomiting of blood and slight bleeding from the rectum. On the tenth day there was profuse bleeding from the cord, vomiting of blood, and bleeding from the rectum, two subcutaneous hemorrhages on the right side of the thorax, and others on the elbows and on the back. Normal human blood serum was administered subcutaneously. The child recovered.

Case 8: On the third day the child began bleeding from the mouth and rectum, and under the skin covering the left scapula. On the fifth day bleeding continued; there was no bleeding on the sixth day. On the seventh day there was bleeding from the rectum. *Normal human blood* serum was injected subcutaneously. The child recovered.

Case 9: The child had severe hemorrhage from bowel and stomach, but recovered after serum injection.

52. **Myasthenia Gravis.**—Pemberton found that in myasthenia gravis there may be marked loss of calcium by the tissues even under circumstances of marked nitrogen retention. The creatinin output in myasthenia gravis may be reduced to a point below normal; the output of creatinin nitrogen expressed in percentage of the total urinary nitrogen may be almost as low as that seen in conditions of true muscular wasting. These facts taken together form a reasonable basis for the belief that myasthenia gravis is a disease of deranged muscular metabolism, and that one, at least, of these two factors (that is, the loss of calcium) *may stand in such a causal* relationship as to indicate the therapeutic administration of that element.

56. **Murmurs in Pulmonary Tuberculosis.**—Murmurs over the chest not demonstrably dependent on cardiac or vascular disease, when listened for carefully under favorable circumstances and repeated *examinations*, are *found* frequently in tuberculosis. They were heard by Montgomery in nearly three-fourths of the advanced cases. These murmurs are usually systolic in *time, and faint* in intensity, in Montgomery's cases three-fourths being faint. They are generally soft and whiff-like in character, though they may be rather loud and harsh. In the majority of cases these murmurs are heard repeatedly and usually intermit only temporarily. The areas where they are most commonly heard, and where their maximum intensity most often occurs, are at the base of the heart, chiefly to the left of the median line at the cardiac apex (a little over half as often as at the base), and at the inferior scapular angles posteriorly, more often on the left side. These murmurs are more frequent over the front of the chest than the back; they are more frequent and more widely distributed over the left side in front than the right. They are heard in a relatively small number of cases in the axillæ. They may be very limited in extent or may cover the entire chest. In Montgomery's cases the murmurs were usually heard best *during the quietest* part of the respiratory act, that is, during expiration or the respiratory pause, and during suspended respiration; less often they were limited to the end of inspiration and beginning of expiration, and rarely they were heard during inspiration only. These murmurs are modified at times, by position, more often by excitement and exertion. With the possible exception of the left side in front, murmurs in advanced cases are heard more frequently over normal or hyperfunctionating tissue than diseased tissue, this being particularly noticeable at the bases posteriorly. The etiology of these murmurs is usually obscure, and causes probably responsible in a certain proportion of all cases are hard to establish in individual cases. In about 7 per cent. of the cases with murmurs, mitral regurgitation dependent on weakness of the heart muscles was diagnosticated. For prognosis and treatment little is gained from these murmurs of undetermined origin. Even when they seem to depend on the advance of the tuberculous process they furnish little information unobtainable in other ways.

Out of 171 cases of pulmonary tuberculosis (over one-half being far advanced cases, and nearly three-fourths of the patients being females), a diagnosis of endocarditis was made in 2 cases (mitral regurgitation once, and mitral regurgitation and stenosis once), and a diagnosis of probable endocarditis (mitral regurgitation) was made in a third case. That is, endocarditis was diagnosticated in 2 or 3 of 171 cases. In none of these cases was a diagnosis of disease of the pericardium or of the aorta made. Myocarditis is not infrequently demonstrated microscopically in hearts from persons dying of tuberculosis, and its occurrence is often suggested clinically. The diagnosis, in individual cases of tuberculosis, however, is usually very difficult, first, because of the frequent absence of important signs, for instance, certain types of arrhythmia; and second, because many of the symptoms of myocarditis may also be produced by tuberculosis. Heart disease with failing compensation, Montgomery has never seen in very far-advanced tuberculosis.

Journal South Carolina Medical Association, Florence

April

58 *Need of Better Education in the Preparation for the Study of Medicine. J. L. Dawson, Charleston.
59 Present Status of Bacterial Immunization. A. M. Brailsford, Mullins.
60 A Plea for More General Use of *Cholecyst-Enterostomy* in Certain Cases of Pancreatitis. LeG. Guerry, Columbia, S. C.
61 The Religious Press and Quackery. R. E. Hughes, Laurens.
62 Duty of the Physician to the Public. C. F. Williams, Columbia.

58. Abstracted in The Journal, May 28, 1910, p. 184.

Journal Arkansas Medical Society, Little Rock

May

63 Dermatitis Exfoliativa. W. R. Bathurst, Little Rock.
64 Medical Association of the Southwest. J. A. Foltz, Fort Smith.
65 Plea for Medical Inspection in the Public Schools. F. D. *Boyd*, Fort Worth.

American Journal of Physiology, Boston

June

66 *Reactions of the *Vasomotor* Center to Sciatic Stimulation and to Curare. T. Sollmann and J. D. Pilcher, Cleveland, Ohio.
67 *Acapnia and Shock: Acapnia as a Factor in the Dangers of Anesthesia. Y. Henderson and M. McR. Scarbrough, New Haven, Conn.
68 Adrenalectomy *and* Glycosuria. H. McGuigan, St. Louis.

66. **The Reactions of the Vasomotor Center.**—Sollmann and Pilcher describe a method for studying the reactions of the vasomotor center by which the *complicating* factors of the force of the heart's action and the influence of peripheral vasomotor action can be obviated. The method consists in isolating an organ, the spleen usually, from its connection with the central vascular system, but retaining its vasomotor ner-

vous connections and perfusing it with Locke's fluid. They usually curarized the animals and found that curare alone slightly stimulated the vasomotor center after a temporary fall of pressure due to peripheral action. During the brief vasomotor action of curare, there is a considerable peripheral block to weak and moderate vasomotor impulses. This may be completely overcome by strong vasomotor stimulation (if the quantity of curare is not too large). Maximal stimulation of the central stump of the sciatic nerve stimulates the vasomotor center so as to decrease the spleen-flow by 20 per cent., on an average (the blood pressure rising 30 mm. to 25 per cent.). The result is not affected by previous section of the vagi. The absolute rise of the pressure is the same for blood pressures ranging between 70 and 160 mm. The percentile rise therefor varies inversely to the level of the blood pressure. The response of the vasomotor center does not bear any simple relation to the blood pressure. The response of the vasomotor center to sciatic stimulation is only about one-third as powerful as is its response to asphyxia. The absolute change of the blood pressure appears to be a more correct index of degree of vasomotor response than the percentile change.

67. **Acapnia and Shock.**—Henderson and Scarbrough continue their discussion of the acapnia theory of shock and endeavor to show the importance of an undue loss of carbon dioxid in producing fatal apnea in the course of administration of anesthetics.

> Anesthetics tend to prevent shock because they diminish the rapid breathing due to pain and thus obviate the development of acapnia (absence of carbon dioxid from the blood).
>
> Respiratory excitement during the initial stages of anesthesia diminishes the carbon-dioxid content of the blood and thus tends to induce a subsequent failure of respiration. Similarly ether, unless neutralized by morphin, in dogs often causes hyperpnea, acapnia, and consequently fatal apnea.
>
> Morphin raises the threshold for carbon dioxid more than it does the afferent threshold of the respiratory center. Chloroform elevates the latter threshold more than the fo[illegible] lessens the sensitiveness of the respiratory [illegible] more than it does the sensitiveness to extet [illegible] form produces an opposite effect. Ether in [illegible] found anesthesia exerts a respiratory stimulant influence which lowers the threshold for carbon dioxid and thus tends to induce acapnia.
>
> Apnea in anesthesia depends, in the same manner as to normal life, on the relation of the level of the threshold of the respiratory center for carbon dioxid to the quantity of *carbon dioxid in the* blood and tissues. Whenever the former is above the latter, spontaneous breathing ceases, that is, the less sensitive the respiratory center is and the less carbon dioxid in the blood, the *more likelihood* of a cessation of the breathing.
>
> Under anesthesia the threshold for carbon dioxid (that is the point at which carbon dioxid will excite breathing) may be elevated 60 per cent. above normal, or depressed 50 per cent. below normal. Such a depression of the threshold causes vigorous hyperpnea. If long continued, it results in intense acapnia, that is, the excessive breathing removes the carbon dioxid from the blood.
>
> Chloroform apnea may be regarded as merely a form of apnea vera.
>
> Experiments show that ether-hyperpnea is as effective as pain hyperpnea as a means of inducing a subsequent fatal apnea vera. For instance, administration of ether in such a manner that rapid breathing is occasioned is as likely to induce shock as intense pain.
>
> In normal subjects under chloroform [illegible] ways fails before the heart. Patients wh [illegible] period of sickness and suffering, or their [illegible] are hypersusceptible to the toxic influenc [illegible] cases the circulation fails first, or simultaneously with the respiration.
>
> Hypercapnia during anesthesia may be the factor which determines the development [illegible]
>
> Skillful anesthesia [illegible] the threshold of the respiratory center for [illegible] arly normal level and in avoiding the develo [illegible] a or hypercapnia.

Long Island Medical Journal, Brooklyn

May

69 Surgery of Blood Transfusion. J. E. Jennings, Brooklyn.
70 Indications for Exploratory Incision in Gastric Diseases. A. Bassler, New York.
71 Chronic Cholecystitis. J. R. Taylor, Brooklyn.
72 Syphilitic Strictures of the Rectum. J. P. Murphy, Brooklyn.

American Journal Obstetrics and Diseases of Women and Children, York, Pa.

June

73 *American Gynecology. E. P. Davis, Philadelphia.
74 *Postoperative Cystitis. J. T. Johnson, Washington, D. C.
75 *Treatment of Eclampsia by Continuous Sugar-Water Instillation. [illegible] New York.
76 [illegible]
77 [illegible] Fibrosis. A. Sturmdorf, New York.
78 *[illegible] Walter, New York.
[illegible] l Stage of Labor. P. T. Harper, Albany.
79 *Extrauterine Pregnancy at Full Term. G. D. Nutt, Williamsport, Pa.
80 *Fibroid Tumor Complicating Pregnancy and Rendering a Continuance of Gestation Dangerous and Natural Delivery Impossible. B. F. Baer, Philadelphia.
81 Treatment of Ante-Uterine Pelvic Abscess by Sequestration and Drainage. H. A. Kelly, Baltimore.
82 Vaginal Cysts and T[illegible] rray, New York.
83 Rôle of Waldeyer's [illegible] he Economy of Health and the [illegible] C. G. Crane, Brooklyn.
84 Diphtheria in Children. E. M. Sill, New York.
85 Education of the Atypical Child—The Unusual Child. S. P. Goodhart, New York.
86 Congenital Symbol Amblyopia. J. H. Claiborne, New York.
87 Oral Defects a Great Hindrance in the Proper Development of Children; The State's Duty to Cope with these Conditions. A. Zentler, New York.

73. Abstracted in THE JOURNAL, May 28, 1910, p. 1813.

74. Abstracted in THE JOURNAL, May 14, 1910, p. 1630.

75. **Treatment of Eclampsia.**—The desideratum, according to Jacobsen, was to find a substance which mixed with the water to be administered shall be harmless and will not increase the molecular concentration and specific gravity of the blood, which are already too high. It seemed to him that pure water created irritation of the bowel. The usual physiologic saline solution was rejected as dangerous and illogical. If the patient is dying from a retention of salts in the blood it would be worse than folly to administer more salt in solution. After going over the field carefully, Jacobsen decided that a solution of sugar would meet all indications. Sugar was decided on because of its high molecular weight. The weight of a molecule of sugar is stated to be 342, while that of salt is 58. It is clear that many more of the lighter or smaller salt molecules will go into a given volume of water, than the many times heavier or larger sugar molecule. Therefore, the molecular concentration of the blood would be speedily reduced by diluting it with sugar water, whereas it would remain the same or be increased by administering salt solution.

This seemed rational and was done in several cases, two of which are briefly reported. While under the sugar-water instillation treatment, the specific gravity of the patient's blood was observed by Hammerschlag's method and recorded. It was found that remarkable improvement took place in the condition of the patients under the continuous rectal administration of sugar water by the drop method (Murphy) and that the specific gravity of the blood fell to 1052 from 1060. Both patients made a good recovery. In addition to the sugar-water instillation only water was given by mouth for three days and the usual treatment in these cases carried out, namely, veratrum viride hypodermically, patient wrapped in blankets surrounded by hot-water bottles to induce perspiration, catharsis, later salt-free diet. Jacobsen says that it was astonishing to see the large quantities of sugar water that were absorbed by these patients, and how the quantity of urine and perspiration increased, bringing about improvement in the patients' condition from the start.

78. **Mechanism of Third Stage of Labor.**—Harper says that the placenta is commonly delivered as an inverted cone, the fetal surface presenting; the membranes follow, reversed. This may be called the normal mechanism because it occurs in the majority of cases; it may be explained by the action of the uterine forces on the placenta in its common position in the upper uterine segment, and it is attended by expulsion of the membranes more often intact. Uncommonly, the placenta is delivered as a cylinder, the edge or the edge and maternal surface presenting; the membranes follow, their anatomic relations preserved. This may be termed the abnormal mechanism because it occurs in the minority of cases; it may be explained by the action of the uterine forces on the placenta in its uncommon position in or encroaching on the lower uterine segment; and it is attended by the expulsion of the membranes often incomplete and detached to a greater or less degree.

79. **Extrauterine Pregnancy at Full Term.**—The two cases reported by Nutt were tubal pregnancies at full term with very little departure from normal pregnancy in so far as the mothers' symptoms and feelings were concerned. In each case at the end of the gestation period labor pains were experiences which subsided with the death of the child.

80. Abstracted in THE JOURNAL, June 18, 1910, p. 2090.

also to determine whether the bacillus present was of the human or bovine variety, Clarke and Forsythe have been using this method for about 18 months, and now record the results in 250 consecutive cases. The technic is simple. A 25 per cent. solution of old tuberculin is made up with a diluent consisting of 1 part of 1 in 20 phenol-glycerin and 2 parts of normal saline solution. The solutions are kept in 3 pipette stoppered bottles containing, respectively, the diluent for control, bovine and human tuberculin.

On the right forearm is placed a drop of the diluent, and at some distance a drop of human tuberculin, and the skin is scarified through each drop with a straight Hagedorn needle. The left arm is similarly treated with bovine tuberculin. A different needle, which is kept in alcohol, is used for each solution.

If a reaction occur, a small red papule appears in 24 hours, increases in size for three or four days, and then gradually fades in about a week, leaving in some cases a slight desquamation or pigmentation. In a few cases the papule becomes vesicular, and in still fewer the reaction is delayed until the fifth or sixth day. The control should show no reaction on the third day. In every one of the first 250, there was some reason to suspect the presence of tuberculosis. Seventy-nine cases were certainly tuberculous, in 42 the diagnosis of tuberculosis was highly probable, and in 129 there was no evidence of tuberculosis other than the reaction when present.

All cases certainly tuberculous gave one or both reactions, with one exception, namely, a case of tuberculous meningitis in which tubercle bacilli were found in the cerebrospinal fluid. This patient died. Of cases probably tuberculous, one or both reactions were present more frequently where the probability was greater than where the probability was less. In cases suspected of tuberculosis, where there were no definite diagnostic signs, one or both reactions were present, more frequently after the age of 15 years and most frequently in patients over 45 years of age. It is obvious, however, that the probability of any individual being tuberculous increases with his age. In the pulmonary cases, of those certainly tuberculous, 2 gave a bovine reaction, and 22 gave both reactions. Of those almost certainly tuberculous, 2 gave a human reaction, 1 a bovine, and 39 gave both reactions. In these two groups of 66 patients examined, 61 gave both reactions, which in 28 cases were equal, in 17, the human, in 16 the bovine being the greater; 2 gave the human reaction only, and 3 the bovine. In all cases some reaction occurred.

Lancet, London

June 4

8 Aneurismal Varix in the Leg of a Child, aged 7 Years. H. Morris.
9 Relation of Fibrosis to Tuberculosis. C. T. Williams.
10 *Pathology of Rheumatic Fever. F. J. Poynton and A. Paine.
11 Nephrectomy. R. A. Stoney.
12 Volvulus Associated with the Reduction of a Hernia. G. Taylor.
13 Pulmonary Tuberculosis in Children. M. H. Williams.
14 Encapsulated Cerebral Abscess. J. A. C. Macewen.
15 Fatty Degeneration of Arterial Hypertension. L. T. Thorne.

10. **Rheumatic Fever.**—Poynton and Paine hold that no explanation of acute rheumatism can compare with that which attributes it to an infection with a diplococcus of the streptococcal group.

Medical Press and Circular, London

May 11

16 Suppurative Diseases of the Maxillary Antrum. C. Nourse.
17 Our Responsibilities in the Prevention of Inherited Syphilis. S. Scheill.
18 Treatment in the Severer Forms of Diabetes Mellitus. W. B. Warrington.
19 Respiratory Exchanges and the Maximum Expiration in the Phthisical. A. Robin.

Clinical Journal, London

May 11

20 Chronic Ascites with Cirrhosis of the Liver. W. P. Herringham.
21 Sympathetic Ophthalmia. A. Ormond.

Practitioner, London

May

22 Prevention of Constipation in Women and Children. J. Byers.
23 Constipation in Women. G. E. Herman.
24 *Constipation in Childhood. F. J. Poynton.
25 *Constipation in Infants. E. Pritchard.
26 Constipation in Adults. W. H. White.
27 *Habitual Constipation Mainly from the Standpoint of its Effects. W. Russell.
28 Secondary Constipation. A. P. Beddard.
29 Diet and Constipation. E. I. Spriggs.
30 Drugs in Constipation. W. C. Wilkinson.
31 *Agar-agar Treatment of Chronic Constipation. L. M. Gompertz.
32 *Use of Sour Milk in the Treatment of Constipation. T. D. Luke.
33 The Spa Treatment of Chronic Constipation. L. Williams.
34 The Cutaneous Manifestations of Constipation. A. J. Whiting.
35 The Operative Treatment of Chronic Constipation. W. A. Lane.
36 Appendicostomy in the Treatment of Chronic Constipation. P. L. Mummery.
37 The Investigation of Constipation by the X-Rays. A. F. Herz.
38 Mechano-therapeutics for Constipation. T. S. Dowse.

24. **Constipation in Childhood.**—To combat constipation in infancy, Poynton says it may be quite sufficient to use manna, which should be dissolved in hot water and strained through muslin. This remedy, no doubt, often fails, but it is very satisfactory when effectual, and for this reason worthy of trial. Some light massage along the colon will help these cases. Salines are most valuable remedies. The secret of the successful use of salines lies in their regular employment, in sufficient dosage to produce a thorough relief of the bowels. The initial dose must be an experiment, but, once ascertained, it should be persisted with until a regular habit had been established and then should be diminished cautiously. If too little is given, griping pains and distention may result, and if too much, the motions will become unduly frequent and liquid.

A likely prescription for a child 2 years of age would be:

℞	gm. or cc.		
Magnesii carbonatis		66	gr. x
Sp. chloroformi		13	mii
Syrupi	1		mxv
Aquæ	8		℥ij

To be taken twice a day—after meals.

It would be necessary, if there has been constipation of some standing, to give a dose of calomel or grey powder before commencing the saline treatment. Castor oil is well known as a very safe aperient, but has the disadvantage of intensifying the constipation if used in occasional doses. In spite of this it is invaluable when it is necessary to clear away curds in milk dyspepsia, and it can then be followed by mild salines. If a small and delicate infant has to be treated, the castor oil can be given with an equal part of pure olive oil. Castor oil has another useful function in young children, when there is irregularity of action of the bowels. In this particular class of case there is at one time constipation, at another diarrhea. Small doses of this drug given once, twice or thrice a day will often correct either of these irregularities. Five minims given in a mixture with a carminative twice a day is an average dose for a child of 12 months.

When the constipation is associated with deficient hepatic action, indicated by pallor of the stools, grey powder is a useful remedy, and this may be combined with powdered rhubarb as follows:

	gm. or cc.	
Pulv. hydrargyri cum creta.	06	gr. i.
Pulv. cinnamoni	03	gr. ss.
Pulv. rhei	2	gr. iii.

Fiat pulv.
To be given at night.

Poynton has used phenolphthalein in a considerable number of cases of constipation in mentally deficient infants and children, and he has found it sometimes very convenient and efficacious in these cases in doses from ¾ of a grain to 2 grains.

25. **Constipation in Infants.**—The more important of the many causes of constipation are classified by Pritchard as follows:

A. ORGANIC IMPEDIMENTS TO PERISTALSIS:
  (1) Congenital malformations:
    (a) Atresia recti,
    (b) Imperforate anus,
    (c) Dilated colon (Hirschsprung's disease).
  (2) Acquired structural alterations:
    (a) Dilated, convoluted, or lengthened colon from overfeeding, or flatulent distention;

(b) Inflammatory conditions of (i) peritoneum (peritonitis); (ii) bowel wall (results of long standing colitis or dysenteric diarrhea): (iii) mucous membrane (inspissated mucus in chronic colitis).

B. INTERFERENCE WITH NERVOUS MECHANISM OF PERISTALSIS AND DEFECATION:

(1) Organic (meningitis, hydrocephalus, tumors of brain and spinal cord);
(2) Toxic conditions:
  (a) specific infections (fevers, etc.);
  (b) specific poisoning due to drugs (opium, lead, excess of lime water, etc.);
  (c) intestinal toxemias due to decomposition of food in the bowel.
(3) Exhaustion of nerve-centers due to over-stimulation by:
  (a) diarrheas;
  (b) purgative drugs.
(4) Interference with the peripheral nervous mechanism by:
  (a) Hypersensitiveness of anal sphincter (fissure of anus),
  (b) Anesthesia of sensitive zone of rectum (by enemata suppositories, presence of foreign bodies, etc.).

C. FAULTS IN THE INTESTINAL CONTENTS:

(1) Insufficient food (starvation, vomiting),
(2) Deficiency of fluid (dehydration of tissues by fevers, loss of blood, want of bile and intestinal secretions).

The treatment of constipation in infants is summarized by Pritchard as follows:

(1) In all cases the exciting cause, such as deficiency or excess of food, or qualitative faults, must be treated by appropriate means; (2) the motions may be softened by—(a) free doses of petroleum emulsion, and (b) in aggravated cases by small doses of drugs which promote intestinal secretion and the outflow of bile; (3) inertia of the bowel may be treated by—(a) massage, or massage combined with electricity, and (b) in aggravated cases by cascara sagrada and nux vomica; (4) in cases in which a chronic colitis complicates the condition, a preliminary course of irrigation (Plombières method) may be employed; (5) in cases in which the motions are light colored and offensive, liquor pancreaticus may be added to the petroleum; (6) in all cases regularity of habit must be enforced by careful and systematic training.

27. **Habitual Constipation.**—It can often be found out from a patient, says Russell, that certain exercises, some simple dietetic measure, or the drinking of water the last thing at night or first thing in the morning, are sufficient to cause bowel action; whenever this is the case these measures ought to be persevered with. Bowel action is favored in many persons by regularity of practical suggestion. The smell of castor oil is said to be sufficient for some. Minute doses of common aperients are ample for others, so minute in fact, that some people insist that the action is by suggestion. Whatever it be, the remedy that acts so is the ideal one for the individual. If a laxative drug has to be taken regularly, perhaps daily, the drug which in smallest quantity ensures movement is the ideal one for the individual, and can often only be found by experience.

31. **Agar-agar Treatment of Constipation.**—The constant or daily use of agar-agar, according to Gompertz, brings about normal evacuations. It is a helpful and harmless remedy that may be used indefinitely without the diminishing and aggravating effects of drug-treatment. The fact that it produces a condition which approximates natural functions, affording necessary relief without interfering with other medical treatment, should entitle agar-agar to professional consideration, and overthrow any objection against its use.

32. **Sour Milk in Constipation.**—Luke outlines his practice as follows: Patients usually take their first glass at breakfast in the place of porridge. It is convenient to turn the glass out into a cold pudding plate and sprinkle the curd with sugar, or with a mixture of cinnamon—powdered—with sugar. Some patients enjoy the slightly acid, sharp taste, and find it more agreeable and appetizing without any added sugar. A brown meal biscuit goes well with it. At lunch the patient takes the curd instead of soup, and at dinner to replace any sweet pudding or pastry by the curd. This makes a convenient distribution and prevents the patient feeling that the extra bulk of food is embarrassing.

Some patients, who are on a purin-free diet and do not take afternoon tea, find a glass of curd nice at 4 p. m., especially in hot summer weather. Luke has never found patients to suffer any material inconvenience or digestive discomfort which was traceable to this diet. If any flatulence or discomfort is experienced for a day or two, the amount of milk taken should be reduced and gradually increased once more as the patient gets accustomed to it. The time for which the milk is taken should be never less than six weeks, if it agrees at all, and it may be quite well continued for six months, and afterward taken occasionally as an article of daily diet.

Journal of Laryngology, Rhinology and Otology, London

May

39 Pathologic Anatomy of Deaf-Mutism. A. A. Gray.
40 Acquired Deaf-Mutism due to Congenital Syphilis. M. Yearsley.
41 Tuberculous Disease of the Trachea Leading to Cartilage Necrosis and Involving the Thyroid Gland. T. Guthrie.
42 Paresis of the Third Nerve and Diseases of the Sphenoidal Sinus. C. Zeim.

Journal of Obstetrics and Gynecology of the British Empire, London

May

43 *After-results of Abdominal Operations on the Pelvic Organs in 1,000 Consecutive Operations. A. F. Giles.
44 *Menstruation in Europeans, Eurasians and East Indians in India. J. C. H. Leicester.

43. **After-results of Abdominal Operations.**—As the result of his study, Giles claims that the general health after myomectomy is very good, 85 per cent. of patients being in quite good health, or at least better than before the operation. The likelihood of recurrence of fibroids is relatively small, the cases of recurrence amounting to under 10 per cent.; 90 per cent. were free from recurrence after periods varying from 1 to 7 years. The menstrual loss is moderate or scanty in about 85 per cent. of cases, many of the patients stating that the loss was less than before the operation. The uterus from which fibroids have been removed may be serviceable for child-bearing, 3 out of 15 married women under 45 having become pregnant subsequent to the operation; the uterus bears the strain of pregnancy and labor without difficulty.

44. **Menstruation in Europeans, Eurasians and East Indians.**—Leicester found on investigation that menstruation begins at a later period among the Europeans than among those of mixed extraction; and that, furthermore, the more the dark element predominates the earlier is the age of onset. Among the East Indians, 53.73 per cent. begin to menstruate before the age of 14 years; of Eurasians, 48.22 per cent.; and of Europeans 39.37 per cent.; while in this latter class of those who had been borne and bred in India, 39.81 per cent. commenced to menstruate before the age of 14, and 38.98 per cent. of those who had not been borne in India. This would seem to show that the onset is slightly earlier among those Europeans who are born and bred in this country than among those who come out here at a later age; but the difference is so slight that in the absence of further figures no stress can be laid on this point.

The average age of commencement works out at 14.32 years in Europeans, 14.15 years in Eurasians, and 13.86 years in East Indians. From these figures it would appear that the age of commencement of menstruation among Europeans in the Tropics is perhaps slightly earlier than it is in temperate climates, this point being somewhat more marked among those who have been born and bred in India; the difference is, however, so slight that it certainly seems as if the effect of climate had been unduly exaggerated by certain writers, the question of race apparently being of far more importance in this matter.

The average periodicity of the flow appears to be more regular in Europeans than in those races of mixed extraction. The average duration of the period is probably practically the same in all these races with the possible exception that it is of slightly shorter duration in Europeans coming to India than in those of other classes. The commonest type of menstrual pain among all classes seems to be that occurring during the period only, and the least common that occurring only before the onset of the flow. The effect of the Indian climate on the periods of Europeans coming out to the country for the first time after the establishment of menstruation is nil in nearly two-thirds of the cases, and in less than one-third is there any increase in the amount lost. The effect of climate, both as to the onset of menstruation and also as to the amount lost at the periods, has probably been overestimated. Race would seem to have far greater influence on onset than climate.

Annales des Maladies des Org. Génito-Urinaires, Paris

April 15, XXVIII, No. 8, pp. 673-768

45 Multiple Calculi in the Pelvic Ureter in a Little Girl. Eynard and Rafin.
46 Improved Apparatus for Urethroscopy and Electrolysis. Abadie.
47 Graphic Registration of the Renal Secretion and Its Ejaculation from the Ureter Mouths. (Urorythmographie.) R. Dos Santos.
48 Technic for Electrolysis of the Urethra. P. C. Petit.
49 Systematic Study of Pain, Hematuria, Micturition and Character of Urine Jet. (La méthode dans l'urologie.) S. Galatzi.
50 Improved Technic for Drainage of the Bladder. (Modification aux procédés actuels de drainage de la vessie.) J. and P. Fiolle.

Annales de Médecine et de Chirurgie Infantiles, Paris

March 1, XIV, No. 5, pp. 145-180

51 *Epidural Injections in Treatment of Enuresis or Essential Incontinence of Urine. G. Sisto.
52 Two New Cases of Bacterial Meningitis Without Cellular Reaction. E. Lesné and L. G. Simon.

April 1, No. 7, pp. 217-252

53 Arthropathies of Tuberculous Origin Accompanying Valvular Cardiac Lesions. H. Barbier.
54 The Radioscopic Triangle in the Axilla in Pneumonia in Children. E. Weill and G. Mouriquand.
55 Three Cases of Laryngostomy for Cricotracheal Cicatricial Stenosis. G. Guisez.

May 1, No. 9, pp. 289-320

56 *Differentiation of Tuberculous Peritonitis Without Ascites. P. F. Armand-Delille.
57 Children's Plays. (Les jeux des enfants. De leur influence en hygiène.) Delobel.

51. Epidural Injections in Treatment of Incontinence of Urine.—Sisto says that the epidural space is a favorable route for absorption of a drug on account of the abundance of veins in the region, permitting much more rapid and extensive absorption than by the subcutaneous or gastric route. It is the ideal method, he declares, for anesthetizing the spinal roots while it is free from the dangers of the lumbar injection into the subarachnoid space and from the inconveniences and perils of intravenous injections. He reports a case in which injection of less than 5 c.c. of physiologic salt solution at blood temperature cured completely life-long nocturnal incontinence in a girl of 14, otherwise healthy. There has been no recurrence during the more than two years since. He followed Cathelin's directions in every point, and commends the epidural injection, after failure of all other measures, citing Zubizarreta's favorable experience with 12 cases. The latter noticed a neuropathic tendency in all his patients and states that the epidural injection in one case was made in the ward where there were four others. The child screamed while the injection was being made, and none of the children was incontinent thereafter for several nights. Bordot has recently reported that he cured 5 out of 11 children with incontinence by the epidural injections, and Sisto has not found the method invariably effectual.

56. Tuberculous Peritonitis without Ascites.—In the case reported a 2-year-old boy developed symptoms suggesting recurring acute appendicitis, except that McBurney's point was not tender, and the child was kept on a light vegetable diet for a few months. An attack of pain in the kidney region at one time was assumed at first to be due to nephritis, but the urine persisted comparatively normal. The recurring abdominal pain at last compelled a laparotomy, when the appendix was found sound but the peritoneum proved to be studded with tubercles without any tendency to ascites. The child was sent at once to a sea-shore sanatorium and now, a few months later, seems to have entirely recovered. Delille comments on the case that months were wasted with the light vegetable diet when the child should have been given general treatment for the tuberculosis; the tuberculin skin reaction would probably have cleared up the diagnosis, but no one thought of this as there was absolutely nothing in the family or environment to suggest possible tuberculosis.

Archives Générales de Chirurgie, Paris

April, IV, No. 4, pp. 331-440

58 *Tuberculosis of the Adnexa. (Tuberculose des annexes de l'utérus.) A. Rives.
59 Multiple Fracture of the Arm. (Fractures simultanées du radius et du massif épicondylien de l'humérus avec luxation du coude en arrière.) Vandenbossche.

58. Tuberculosis of the Adnexa.—Rives has compiled 250 cases of a tuberculous process in the adnexa, published in the last decade. Although the years between 15 and 25 are most affected yet the list of cases includes all ages from infancy to old age. A predisposition is evidently afforded by congenital deformities, stunted development and neoplasms, especially ovarian cysts, and gonorrheal lesions, fully one-tenth of the cases occurring in virgins. Treatment should be the general measures for tuberculosis, and severe lesions may retrogress under this alone. Surgical measures are indicated only in case of vital indications and a primary focus or to remove absolutely useless organs. In a number of cases on record the lesions subsided and menstruation and conception followed. Operative treatment does not seem to give permanent cures; a survival of more than a year is recorded in only 38 out of 275 cases in which it was attempted. The number of survivals after minor, conservative operations is as large as after more radical measures. The rarity of a primary localization also tends to discredit the latter. The summaries of 12 cases from the Montpellier hospitals are appended. Three patients are in good health to date, from 4- to 7 years after abdominal or vaginal panhysterectomy; in the other cases the operation is comparatively recent. Differentiation is generally difficult.

Archives des Maladies de l'App. Digestif, Paris

April, IV, No. 4, pp. 177-240

60 *Foreign Bodies in the Esophagus. (Corps étrangers de l'oesophage.) G. Guisez.
61 *Digestive Disturbances and Intercostal Neuralgia. M. Loeper.
62 **Normal Toxicity of the Food. G. Linossier and G. H. Lemoine.*

60. Foreign Bodies in the Esophagus.—Guisez tabulates the details of 49 cases from his experience and discusses them from the standpoints of esophagoscopy, clinical observation and treatment. The mucosa tolerates bodies with round edges, such as a coin; only slight superficial lesions of the mucosa were evident in any such cases even when the foreign bodies had been impacted for several days up to four years. The foreign body was a chunk of meat in one case and in some others bismuth, taken for Roentgen ray examination, had packed into a lump from spasm of the cardia or cancerous obstruction.

61. Digestive Disturbances and Intercostal Neuralgia.—Loeper has encountered a number of cases in which gastric dyspepsia, pain and oppression in the stomach and retarded evacuation followed typical intercostal neuralgia with or without zona and zones of hyperesthesia, the digestive disturbances developing only after the neuralgia, of which they were thus evidently a complication, a visceral manifestation of a superficial neuralgia, which, as the patients said, "settled in the stomach." In some similar cases on record the visceral manifestations were more in the intestines. Diarrhea followed zona in Rouyer's case. The data to date seem to indicate, Loeper thinks, that the primary trouble is in the spinal roots, and the relief from lumbar puncture in some cases seems to sustain this view. Otherwise treatment is only that for neuralgia in general; with a suspicion of syphilis, specific treatment may give brilliant results as in one of the cases reported.

62. Normal Toxicity of the Food.—Subcutaneous injection into animals of various albuminoid substances of animal origin showed that all had a decided and constant toxic action, unless they had been previously treated with gastric juice; this seemed to annul their toxicity completely. Heating the substances beforehand also annulled their toxicity for the kidneys. It is evident, Linossier and Lemoine remark, that the least irregularity in the natural defences in the gastrointestinal tract leaves the toxicity unannulled. They add that life is an uninterrupted struggle, inevitably terminating in defeat, and it is curious to learn that included among the enemies which the organism has to contend with are meat and milk, supposed to be its most potent allies. Digestion is the battle, and the conquerors make slaves of the conquered. But years of this struggle finally wear out the organism even if it has been constantly victorious.

Archives de Médecine des Enfants, Paris

May, XIII, No. 5, pp. 321-400

63 Changes in the Liver of Children with Surgical Tuberculosis. (Les altérations fonctionelles et anatomiques du foie des enfants dans la tuberculose chirurgicale.) V. Brun and G. Bongioannini.
64 Analysis of 3,750 Cases of Surgical Tuberculosis. (Statistique des enfants traités dans le service du Dr. Broca pour tuberculose chirurgicale.) C. Claeys.

Bulletin de l'Académie de Médecine, Paris

May 10, LXXIV, No. 18, pp. 385-404

65 *Primary Tumor of the Liver. (L'hépatome.) Rénon and Others.
66 *Differential Importance of Serodiagnosis of Actinomycosis. F. Widal.

May 17, No. 19, pp. 405-434

67 Localized Black Sweat; Melanephidrosis. (Nouveaux faits concernant la chromidrose.) R. Blanchard.

65. **Primary Tumor of the Liver.**—Rénon and his coworkers explain primary hepatoma as an aberrant embryonal tumor resulting from the revivification of the normal embryonal process later in life.

66. **Serodiagnosis of Actinomycosis.**—Widal was able to differentiate actinomycosis by the seroreaction in 8 cases, the only negative reaction being in a case in which the cure had been complete for over four years. The specific reaction is both by agglutination and by fixation of complement by means of the spores of the sporotrichum. Actinomyces cultures can not be used for the tests, but the generic reaction with sporothrix spores is constant and lively. It is specific for actinomycosis, sporotrichosis and thrush, but these can be readily distinguished. Sporotrichum cultures can be preserved indefinitely, he says, by sterilizing with formalin.

Lyon Médical, Lyons

April 17, XLII, No. 16, pp. 853-904

68 Radiotherapy of Suppurating Adenitis, Ulcerations and Fistulas of Glandular Origin. F. Barjou.

April 24, No. 17, pp. 905-948

69 Treatment of Congenital Inguinal Hernia in Adults by Simple Resection of the Ligated Sac. Véron.

Obstétrique, Paris

May, III, New Series, No. 5, pp. 385-560

70 Importance of Blood Picture and Bacteriologic Examination of the Blood in Puerperal Infection. (Valeur de l'ensemencement du sang et de la méthode d'Arneth-Wolff dans le pronostic de l'infection puerpérale.) V. Cathala and P. Guéniot.
71 [illegible] on the Kidney of Gravid and Suckling [illegible] de la graisse dans le rein de la chienne [illegible] J. L. Chirie.
72 *[illegible] luring U[illegible] Pregsur le [illegible]z la femme enceinte atteinte de [illegible] P. Lequeux.
73 Experimental Research on Tranfusion of Blood During Pregnancy. P. Delmas.
74 Enlargement of the Transverse Diameter of the Pelvic Outlet by the Lithotomy Position plus Extension of the Legs. (L'agrandissement du diamètre bis-ischiatique par la position de la taille complétée par l'extension des jambes.) L. Devraigne and P. Descomps.
75 *Tabes and the Puerperium. (Tabes et puerpéralité.) Gaussel-Ziegelmann.

72. **The Limit of Assimilation of Sugar in Uncontrollable Vomiting of Pregnancy.**—Lequeux calls attention to the important information to be derived from digestive *glycosuria e saccharo* for estimation of the gravity of the condition in uncontrollable vomiting of pregnancy. Pinard has recently declared that the pulse is the infallible index of the condition, regarding a pulse of over 100 as an indication for immediate interruption of the pregnancy. But he has encountered one case at least with fatal coma with a pulse *not over 80*, and Lequeux here reports three cases in which *the pulse was never high* although the condition was extremely serious. He tested the power of assimilation for sugar and found that it was materially lowered in these severe cases; it paralleled the general condition so closely that he is convinced that the glycolytic power is the most reliable index of the condition of the liver and hence of the approach of danger. He gives the patients from 20 to 50 gm. of cane sugar and his experience has shown that when the power of assimilation is below 1 gm. per kilogram of body weight, the prognosis is very grave and the pregnancy should be terminated at once. The lower glycolytic power may persist for some time, indicating that the woman should be regarded as having pronounced liver trouble and should be treated accordingly until conditions return to normal.

75. **Tabes and Pregnancy.**—The history of tabes in connection with childbirth shows that the chances are all in favor of the delivery and puerperium being normal. The mother does not seem to incur any special danger from the coexistence of the tabes, and the children are viable and healthy in a large proportion of the cases. In a series of 68 cases on record of pregnancy in the course of tabes, two-thirds of the 27 children were living at last accounts and one-third of the 41 children of mothers whose tabes developed after the onset of the pregnancy. *The tabes itself does not seem to affect the children;* the relatively high mortality is due to the preexisting syphilis. Delivery is liable to be exceptionally brief on account of the lack of tone in the muscles, but otherwise the obstetrician should deal with the tabetic as with the healthy parturient. If the syphilis is of recent date or there is a history of preceding abortions, mercurial treatment during pregnancy is indicated on behalf of the child.

Presse Médicale, Paris

May 21, XVIII, No. 41, pp. 377-392

76 Median Reenforcement of Abdominal Suture. (Cicatrices discontinues et renforcement médian dans les laparotomies longitudinales médianes.) L. Chevrier.
77 The Virus of Acute Epidemic Poliomyelitis. C. Levaditi.
78 Colon Bacillus Septicemia. (Etude des septicémies colibacillaires.) H. De Bessé.
79 *The Gases in Stomach Disturbances and Treatment Based Thereon. (Recherches sur les gaz de l'estomac.) M. Hulmann.

May 25, No. 42, pp. 393-400

80 Serotherapy of Anthrax. (La sérothérapie anticharbonneuse.) L. Boidin.
81 Repose and Exercise in *Treatment of Pulmonary Tuberculosis.* A. Martinet.

79. **Gases in Treatment of Gastric Disturbances.**—Hulmann has been studying the gases generated in the stomach in the course of digestion, for which he has devised a simple apparatus, using a branching Faucher tube. In treatment of pathologic conditions he utilized the information thus derived, injecting a mixture of air and carbon dioxid in two patients with acid dyspepsia, air and oxygen in a patient with glandular atony, pure nitrogen in a case of nervous atony and pure oxygen in a case of dilatation of the stomach and autointoxication. The results he regards as encouraging, and he is now experimenting to learn whether injection of some gas before meals may not be able to stimulate the gastric secretions and promote digestion. Mere evacuation of the gases generated in the stomach gave great relief in three other cases.

Revue de Gynécologie, Paris

May, XIV, No. 5, pp. 417-512

82 Modifications in the Hymen from Diseases of the Genital Apparatus. F. Jayle.
83 Results of Various Operations done for Ileocecal and Appendiceal Tuberculosis in 469 Cases on Record. P. Alglave.

Semaine Médicale, Paris

June 1, XXX, No. 22, pp. 253-264

84 *Estimation of Gastric Acidity by Effervescence on Ingestion of an Alkali. (Une nouvelle méthode d'examen fonctionnel de l'estomac.) E. Fuld.

84. **Estimation of Gastric Acidity by Effervescence on Ingestion of an Alkali.**—Fuld has the patient drink a solution of sodium bicarbonate and then applies the stethoscope to the stomach and estimates the amount of hydrochloric acid present by ausculting the effervescence that follows the contact of the alkali with the acid medium of the stomach content. When the formation of bubbles can no longer be heard, percussion will reveal the amount of gas generated and radioscopy will confirm the degree of distention of the stomach. The acid naturally in the stomach takes the place of the tartaric acid

used for the usual effervescence inflation test. He declares that when it is impossible to withdraw the stomach content for direct inspection, this sodium bicarbonate test is superior to all other measures on account of its simplicity, ease and precision, this intragastric acidimetry by saturation, corresponding to titrametry in chemistry, permitting the determination of the total amount of free acid in the stomach at a given moment. The degree of concentration is expressed by the rapidity with which the phenomena of crepitation occur. He adds that if in the normal stomach one hour after a test meal the stomach content may be assumed to average 250 c.c. with a free acidity of 30, the neutralizing dose of sodium bicarbonate would be 0.63 gm. and the carbon dioxid generated would amount to 0.33 gm. which would fill a space of 187 c.c. After cessation of the effervescence following ingestion of this dose, if a new dose is ingested and effervescence follows anew, this shows, he says, that there is an excess of acid present. In conclusion he remarks that the special value of this test may prove to be in revealing anachlorhydria, pointing to gastric cancer.

Berliner klinische Wochenschrift

May 16, XLVII, No. 20, pp. 913-956

85 Historical Address at Bicentennial of Berlin Charité Hospital. O. Scheibe.
86 Clinical Methods and Instruction in the Past and Present. (Klinischer Betrieb und klinischer Unterricht einst und jetzt.) F. Kraus.
87 *Serotherapy plus Vaccine Therapy in Treatment of Scarlet Fever. (Neuere Gesichtspunkte der Scharlachbehandlung.) G. Jochmann and G. Michaelis.
88 Operative Cure of Cortical Epilepsy. (Fall von operativ behandelter Rindenepilepsie.) A. Franz.
89 Sensitized Tubercle Bacilli Emulsion. (Tuberkulose-Sero-Vaccin.) F. Meyer.
90 Free Hemolytic Fat Acids in the Liver with Acute Yellow Atrophy and Phosphorus Poisoning. (Ueber hämolytisch wirkende, freie Fettsäuren in der Leber bei akuter gelber Atrophie und Phosphorvergiftung.) G. Joannovics and E. P. Pick.
91 Comparative Experimental Research on Retention of Kissingen Mineral Waters in the Stomach. (Verweildauer der Kissinger Mineralwässer im Vergleich zu anderen Flüssigkeiten im Magen.) F. Meyer.
92 Nursing and Therapy: Importance of Training Medical Students in the Care of the Sick. (Bedeutung der Krankenpflege für die Therapie.) R. Salzwedel.

87. Treatment of Scarlet Fever.—Although the streptococcus is not regarded as the causal agent of scarlet fever, yet its cooperation is what seems to make the disease so murderous, according to the opinion of Jochmann and Michaelis. They have obtained good results in treatment by combining antistreptococcus serum with vaccine therapy; neither alone gave such good results. The method was applied only in the severer cases; that is, in 52 out of 400; 14 of the patients died and 38 recovered, all without complications of any kind. The absence of nephritis they regard as more than a mere coincidence. In their previous experience scarcely any of the patients recovered from whose blood during life streptococci could be cultivated, but among those who recovered under the combined treatment there were a number in this category.

Deutsche medizinische Wochenschrift, Berlin

May 19, XXXVI, No. 20, pp. 921-968

93 *Treatment of Pericarditis. N. Ortner.
94 *Puncture of the Brain. (Zur Hirnpunktion.) K. Pollack.
95 Origin of Cirrhosis of the Liver. (Zur Genese der Leberzirrhose.) O. Warschauer.
96 *Diabetes Mellitus. (Diätregelung und Heilung bei Diabetes mellitus.) A. Lenné.
97 Determination of Tubercle Bacilli when they are very Scanty. (Nachweis sehr spärlicher Mengen von Tuberkelbazillen.) T. Huzella.
98 Simplified India-Ink Technic for Determination of Spirochetes. (Nachweis der Spirochaeta pallida durch ein vereinfachtes Tuschverfahren.) J. Berg.
99 Three Cases of Hemoglobinuric Nephritis with Pneumonia. W. Doevenspeck.
100 Bilharzia Disease of the Bladder. E. R. W. Frank.
101 Diagnosis and Treatment of Bladder Stones in Children. (Blasensteine beim Kinde.) G. Berg.
102 Parenchymatous Keratitis a Genuine Syphilitic Disease. J. Igersheimer.
103 To Prevent the Hair from Falling Out: Keep the Scalp Clean. (Zur Verhütung des Haarausfalls.) E. Kromayer.

93. Treatment of Pericarditis.—Ortner emphasizes the importance of a history of syphilis or rheumatism as a guide to treatment; the salicylates rarely prove effectual in rheumatic pericarditis but they should always be given a trial. He remarks that pericarditis may occur in an encapsulated form; there may even be multiple encapsulated foci; some serous, others with purulent contents. Absolute repose should be continued until the last trace of effusion and of friction sounds has vanished and the heart action is entirely normal. In case of local disturbances he applies cold in the form of an ice bag suspended over the heart, or heat from hot compresses; the latter aid in relieving pain while they have an unmistakable curative action and strengthen the heart. Dry cupping may also prove useful; morphin, he continues, should be given without hesitation in case of excessive pain and restlessness. When there is a concomitant pleural effusion he taps the latter first as this may make it unnecessary to tap the pericardium. The latter measure, however, may render important service even with a purely hemorrhagic pericardial effusion; in two recent cases of hemorrhagic effusion with pericarditis, accompanying scorbutus, the puncture proved a life-saving measure. It should be made only in the side regions of the pericardium.

94. Puncture of the Brain.—Pollack comments on the diagnostic and therapeutic importance of puncture of the brain, not only for acquired hydrocephalus but for cysts and effusions in the meninges or brain, dural hematomas and abscesses in the brain. In a number of cases reported in detail of hydrocephalus, circumscribed meningeal effusions, uncomplicated cysts and dural hematomas the result was a definite cure. The best technic is puncture of the scalp, a small hole bored in the skull with a fine blunt smooth drill and introduction of a fine hollow needle attached to a Pravaz syringe. Larger sized instruments are liable to injure vessels which the fine ones push to one side. Among the instructive cases described in detail is one of an assumed abscess in the brain of a girl of 17; puncture of the right frontal lobe gave issue to 18 c.c. of fluid and a little normal brain tissue, after which the intense headache subsided. A week later the left cerebellum was punctured and fluid spurted, about 60 c.c. being evacuated this time, followed by entire recovery. Neither in this nor in some similar cases were there any pathologic findings in the fundus of the eye or other signs of hydrocephalus. Acute or subacute hydrocephalus in adults is frequently diagnosed as migraine, and a rapidly fatal termination may be averted by prompt puncture, as also in cases of a superficial local intracranial collection of fluid. He adds that especially in the diagnosis and treatment of extradural and intradural hematomas puncture has rendered most valuable service. In some of these cases the limpid fluid found showed that the bleeding had entirely stopped, and the patients recovered at once after escape of the fluid. The most instructive sign in such cases is the violent circumscribed pain experienced at the site of the old trauma when the region is struck; the puncture shows that the trouble is a serous effusion at the site of the injury. In the last case described a young man of a hysteric-neuropathic temperament had a frontal sinusitis after scarlet fever, which healed on evacuation of the focus. Symptoms developed later suggesting possible hysteria or an intracranial process, the former being finally accepted. Puncture however brought pus.

96. Diabetes Mellitus.—Lenné declares that the diet should be individualized for the patient and the special phase of the disease more than is generally done. It has been his experience that the way in which the carbohydrates are prepared for the table is of the greatest importance for their tolerance by the diabetic. They are tolerated best in the form which takes the longest time for their absorption and which passes most slowly into the blood, such as coarse, tough, moist bread rather than fine, dry and toasted bread, Saratoga potatoes instead of soft mashed potato, etc. The behavior of the albumin metabolism is the criterion of the severity of the case and of the permanence of recovery. It is possible, he says, to conceive of a functional diabetes in which the centers regulating carbohydrate metabolism do not functionate normally because the internal secretions of the organs involved do not reach them physiologically, owing to lack of development of the organs or to toxic influences or other causes. As the young organism grows into harmonious physiologic proportions, things right themselves. This assumption would explain Hürter's case of apparently complete recovery from severe diabetes in a girl of 10. Lenné also reports a case of apparently complete cure of a young man of 20 who two years ago presented severe acetonuria and other symptoms of grave diabetes, so that the prognosis was regarded as distinctly unfavorable. What no medical measures had been able to accomplish was realized naturally, probably, by the further development of the organs or centers or both involved.

Fortschritte der Medizin, Leipsic

April 28, XXVIII, No. 17, pp. 513-544

104 Etiology, Localization and Early Diagnosis of Apical Tuberculosis. (Entstehung, Lokalisation und frühzeitige Erkennung der Lungenspitzentuberkulose.) H. Beschorner. Commenced in No. 16.

May 12, No. 19, pp. 577-608

105 *Tuberculosis and Chlorosis. G. Zickgraf.
106 Modern Treatment of Gastrointestinal Disease. (Die moderne Therapie der Magen-Darmkrankheiten.) I. Lipowski. Commenced in No. 18.

105. Tuberculosis in relation to Chlorosis.—Zickgraf makes a practice of applying the tuberculin test in every case of persisting chlorosis, and states that a positive response was obtained in 74.8 per cent. of 55 cases in which there was nothing otherwise to suggest the existence of tuberculosis. This finding confirms his assumption that tuberculosis is responsible for the chlorosis in a surprisingly large number of cases. The reaction was obtained with 5 mg. or less in all but 5 of the patients. In 48 other cases the chlorosis accompanied manifest signs of tuberculosis. In the tuberculous cases in which the chlorosis was the first or one of the first manifestations of the infection, the patients reacted to the tuberculin test with smaller dosage and in a larger percentage than the rest of the tuberculosis suspects, and the percentage of negative responses was less. Sanatorium treatment was indicated for only 56.9 per cent. of the whole number of suspects while it was indicated for 70.7 per cent. of the whole number of chlorotics with or without suspicion of existing tuberculous infection. The general practitioner, he remarks, should examine the lungs with particular care in every case of chlorosis, and if the chlorosis proves refractory to the usual measures he should not hesitate to apply the tuberculin test as tuberculosis may be lurking beneath.

Jahrbuch für Kinderheilkunde, Berlin

May, LXXI, No. 5, pp. 525-650

107 *"Albumin Milk" in Infant Feeding. (Ueber "Eiweissmilch." Ein Beitrag zum Problem der künstlichen Ernährung.) H. Finkelstein and L. F. Meyer.
108 Study of Epidemic of Rubeola. (Röteln.) O. Schey.
109 Relations of Cretinism with Myxedema and Cachexia Strumipriva. (Familiärer Kretinismus in Wien.) R. Ellar.
110 Study of the Metabolism During the First Two Weeks in Infants Born at Term or Before. (Beitrag zur Kenntnis der Stoffwechselvorgänge in den ersten vierzehn Lebenstagen normaler und frühgeborener Säuglinge.) L. Langstein and A. Niemann.

107. Sugar-Poor Mixture for Infant Feeding.—Finkelstein is convinced that serious disturbances are kept up in sick infants by the fermentation and acids generated by even small amounts of milk sugar in the food. When the food is given entirely free from sugar, "fat diarrhea" stops at once, showing that the latter is not primary. Measures to prevent and cure dyspeptic fermentations should include reduction of the amount of sugar in the food and dilution of the salts, with increased proportions of casein and fat, and, as the child improves, larger amounts of easily assimilable carbohydrates. These requirements he meets with a food made by coagulating a liter of whole milk with a little liquid rennet, keeping the milk for 30 minutes at a temperature of 42 C. in the water bath, and then pouring the whole into a linen bag hung up to drip for an hour. The clotted casein is then stirred into a half liter of water and the whole worked through a hair sieve twice at least. The mixture then looks like milk; a half liter of buttermilk is then stirred into it. Buttermilk answers the purpose on account of the small content in milk sugar, the stimulating action of the lactic acid and the comparative durability of the mixture thus prepared. He calls it *Eiweissmilch*, albumin milk, and states that it contains 3 per cent. albumin; 2.5 per cent. fat; 1.5 per cent. sugar and 0.5 per cent. ash: the proportion of ash is thus higher than in ordinary cow's milk, the artificial clotting increasing the amount naturally retained in the clot. The benefit from this food is emphasized as observed in various gastrointestinal disorders, the groups being classified and analyzed in turn. The article is continued.

Medizinische Klinik, Berlin

May 15, VI, No. 20, pp. 771-810

111 Operative Treatment of Ptosis of the Eyelids. A. Elschnig.
112 *Etiology of Eclampsia. A. Bauereisen.
113 *Transplantation of Glands. (Transplantation und Epithelkörperchen.) W. Danielsen and F. Landois. Commenced in No. 19.
114 Localization of Incipient Pulmonary Tuberculosis in the Röentgen Picture. H. Grau.
115 *The Salt-Poor Diet. (Zur Praxis der kochsalzarmen Ernährung.) J. Leva.
116 The Nitroprussid Reaction in the Urine. (Ueber die Arnoldsche Reaktion.) E. Herzfeld and X. Buss.
117 *Experiences with
Spinal Cord
Duschemassage
R. Schuster.
118 Tuberculin Treatment of Chronic Tuberculosis in the Rabbit. (Behandlung der chronischen Tuberkulose des Kaninchens mit Alttuberkulin.) R. Stumpf.

112. Eclampsia.—Bauereisen reviews the various theories that have been advanced to explain eclampsia, all sustaining the assumption that the disease is the result of an intoxication from disturbances of the metabolism in consequence of the pregnancy. He advises frequent examination of the urine and regulation of the diet if kidney troubles threaten, with considerable reliance on vegetable alkalies. After the onset, delivery can be hastened and the poison got rid of by venesection, promotion of kidney and skin functioning and intake of alkaline fluids. Narcotics should be avoided, he says, as they reduce the oxidizing power of the cells and do direct harm to vital organs. If all these measures fail, decapsulation of the kidney is in order. Experience to date has shown that treatment along these lines is successful and the results are better, the earlier it is instituted. The exact nature of the toxin may be still a mystery, but the struggle against the disease is no longer hopeless.

113. Transplantation of Glands.—Danielsen and Landois conclude this long study of what has been accomplished to date in transplanting glandular organs by stating that the results are very meager in comparison to the expectations and the labor expended. Experience has shown that the results are poorer the more highly organized the tissue transplanted. This applies especially to brain and spinal cord tissue and to the suprarenals. In contrast to these are the good results with purely epithelial glands like the mamma, ovaries, thyroid and parathyroids. The transplantation of ovaries and parathyroids has given especially fine results, but each advance in these lines opens up new problems for solution. Further research is urgently needed, they remark, on the functioning of the thymus, the hypophysis and the suprarenals.

115. Salt-poor Diet.—Leva recapitulates the findings of his recent research on the salt content of various foods, based on 360 analyses. He then discusses the menus that can be made up from the foods containing naturally only small amounts of salt, declaring that custom is responsible for our eating so much salt, and that no harm results from abstention; many primitive races take no salt at all. Meat is the one article that seems to require more salt to render it palatable, especially beef, veal and pork, soups and meat extracts. The bread should be made without salt and vegetables avoided that contain a large proportion, such as celery, spinach and cauliflower. But other vegetables, cereals, beverages, unsalted butter and cream, eggs, etc., form a liberal diet. Canned goods should be excluded as they usually contain a considerable amount of salt, as also mineral table waters. He adds that horseradish, mixed pickles or mustard can disguise the lack of salt.

117. Douche-Massage in Brain and Spinal Cord Disease.—Schuster has the massage applied with one hand while the other plays the douche on the patient. This method of applying the Aachen thermal waters has been found to be especially useful in chronic myelitis, tabes and cerebral syphilis, spinal and progressive paralysis as well as in rheumatism and neurasthenia. With two exceptions all the patients were benefited.

Norsk Magazin for Lægevidenskaben, Christiania

May, LXXI, No. 5, pp. 449-568

153 *Action of Electric Current on Human Body and Its Importance for Accident Insurance and Forensic Medicine. (Om indvirkningen af elektrisk strøm paa det menneskelige legeme og betydningen heraf i ulykkesforsikringen og i retsmedicinen.) F. Harbitz.
154 Action of Exlusive Meat Diet, Especially on the Thyroid. (Om virkningen af ensidig kjødernæring, særlig paa glandula thyreoidea.) A. Tanberg.
155 Circular Suture of Brachial Artery. H. Wille.

153. **Action of the Electric Current on the Human Body.**—Harbitz discusses 18 cases from his own experience and the factors which determine the outcome. Experience has shown a remarkable difference in the resistance of different individuals to the same current. A workman was killed instantly with a current of 2 amperes and 220 volts, but some others recovered after from 5,000 to 16,000 volts. In one a current of 7,000 volts apparently passed through the head and spine and after unconsciousness for two hours there was acute mania for three hours which then subsided suddenly and completely with no lesions of consequence. In another case a man of 43 came in contact with a current of 30 amperes and 12,000 volts. After a few minutes of unconsciousness, he was able to get up alone, but his right arm was helpless for a time and there were burns on both arms and one leg, and occasional slight pains in the legs for a few months. In another case the head came in contact with a current of 16,000 volts and was much burned and cataract developed later. It is possible that in this case the current did not pass through but merely skipped, with production of a spark, the latter doing the damage. The resistance offered by the skin is great, especially in the palm or sole of the foot, while thin, delicate skin has less resisting power and mucous membranes still less. The resistance is less also if the skin is moist, especially with sweat, or from damp shoes and stockings. Predisposition is of importance. Young people of the lymphatic temperament seem to be especially liable to sudden death in electric accidents; next in order come hard drinkers and persons with heart disease; in one of his cases the electric accident seems to have aggravated an already existing vascular affection. Different species of animals show great difference in their susceptibility, the horse succumbing to a weak current, 400 or 500 volts, while a rabbit may survive the passage of 1,000 volts and the frog 10,000. The autopsy findings in Harbitz's cases are reported in detail. An electric accident is especially dangerous when the chest and heart are involved but the head seems to be less susceptible. Some advise venesection in cases of cyanosis, others advise against it on account of the danger of lowering the blood pressure. Jellinek has recommended lumbar puncture. Massage or regular elastic pressure on the heart may arouse it to spontaneous contraction, supplemented by stimulants and revulsion. These measures for resuscitation should not be abandoned for several hours. Prévost revived dogs by massage of the heart after two hours of apparent death. Schumacher advises in the most desperate cases tracheotomy and massage of the heart for two hours, supplemented, as a last resort, by sending a current of not less than 240 volts through the body, one electrode in the rectum, the other in a moist compress on the heart, applying the current for two or three seconds at a time. It is important to have the patients examined by an ophthalmologist later for detachment of the retina, atrophy of the optic nerve, etc. Tardy eye symptoms were observed by Jellinek in about one-half of his 122 cases of electric accidents (exclusive of 12 fatal cases).

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

THE EXAMINATION OF THE FUNCTION OF THE INTESTINES BY MEANS OF THE TEST DIET. Its Application in Medical Practice and Its Diagnostic and Therapeutic Value. By Dr. Adolf Schmidt, Halle, A.S. Authorized Translation from the Second Revised and Enlarged German Edition by Charles D. Aaron, M.D., Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine. Price, $1.50 net. Cloth. Pp. 126, with illustrations. Philadelphia: F. A. Davis Co., 1909.

FOUNDERS' WEEK MEMORIAL VOLUME. Containing an Account of the Two Hundred and Twenty-fifth Anniversary of the Founding of the City of Philadelphia, and Histories of its Principal Scientific Institutions, Medical Colleges, Hospitals, etc. Edited by Frederick P. Henry, M.D. Cloth. Pp. 912, with illustrations. Published by the City of Philadelphia in Commemoration of the Two Hundred and Twenty-fifth Anniversary of its Founding. Philadelphia, 1909.

DIE PRAXIS DER HYDROTHERAPIE UND VERWANDTER HEILMETHODEN. Ein Lehrbuch fur Aerzte und Studierende. Von Dr. A. Laqueur, leitendem Arzt der hydrotherapeutischen Anstalt und des medikomechanischen Institutes am stadtischen Rudolf-Virchow-Krankenhause zu Berlin. Price, 8 marks. Paper. Pp. 288, with 57 illustrations.. Berlin: Julius Springer, 1910.

THE PRACTICE OF MIDWIFERY. Being the Seventh Edition of Dr. Galabin's Manual of Midwifery, Gre [illegible] tended. By Alfred L. Galabin, Late Fellow [illegible] bridge, and George Blacker, M.D., Fellow o [illegible] ondon. Price, $6 net. Cloth. Pp. 1123, [illegible] New York: The Macmillan Company, 1910.

MANUAL OF TROPICAL MEDICINE. By Aldo Castellani, M.D., Director of the Clinique for Tropical Diseases, Ceylon, and Albert J. Chalmers, M.D., Registrar and Lecturer on Pathology and Animal Parasitology, Ceylon Medical College. University Series. Cloth. Price, $6 net. Pp. 1242, with 373 illustrations. New York: William Wood & Co., 1910.

PRINCIPLES OF SURGERY. By N. Senn, M.D., late Professor of Surgery, University of Chicago. Fourth Edition thoroughly revised by E. J. Senn, M.D., and E. Friend, M.D., Instructor in Surgery in Rush Medical College. Price, $5 net. Cloth. Pp. 706, with 231 illustrations. Philadelphia: F. A. Davis Co., 1909.

FIRST BIENNIAL REPORT, COMPRISING THE EIGHTEENTH AND NINETEENTH ANNUAL REPORTS OF THE TRUSTEES AND OFFICERS OF THE OHIO HOSPITAL FOR EPILEPTICS AT GALLIPOLIS. To the Governor of the State of Ohio. For the Biennial Period Ending Nov. 15, 1909. Paper. Pp. 119, with illustrations.

UEBER DIE NATUR UND DIE HERKUNFT DES TRACHOMERREGERS UND DIE BEI SEINER ENTSTEHUNG ZU BEOBACHTENDE ERSCHEINUNG DER MUTIERUNG DES GONOKOKKUS NEISSER. Von Dr. Hans Herzog (Berlin). Paper. Price, 5 marks. Pp. 56, with illustrations. Vienna: Urban & Schwarzenberg, 1910.

PRACTICAL SUGGESTIONS IN BORDERLAND SURGERY. For the Use of Students and Practitioners. By Gustavus M. Blech, M.D., Professor of Clinical Surgery, Medical Department, Loyola University, Chicago. Price, $1.50. Cloth. Pp. 219. Philadelphia: Professional Publishing Co., 1910.

OPERATIVE SURGERY. For Students and Practitioners. By John J. McGrath, M.D., Professor of Operative Surgery at the New York Post-Graduate Medical School. Third Edition. Price, $5 net. Cloth. Pp. 653, with 265 illustrations. Philadelphia: F. A. Davis Co., 1909.

CHIRURGISCHE OPERATIONSLEHRE FÜR STUDIERENDE UND AERZTE. Von Dr. Friedrich Pels-Leusden, Oberarzt der Chirurgischen Universitätsklinik. Paper. Price, 18 marks. Pp. 728, with 668 illustrations. Vienna: Urban & Schwarzenberg, 1910.

CONGENITAL DISLOCATION OF THE HIP. By J. Jackson Clarke, F.R.C.S., Senior Surgeon to the Hampstead and North-West London Hospital. Cloth. Price, $1.50 net. Pp. 92, with 55 illustrations. New York: Paul B. Hoeber, 69 East 59th St., 1910.

ATLAS DER RECTALEN ENDOSKOPIE. Nebst einer Einführung in die Technik der Rectalen Endoskopie. Von Dr. Arthur Foges, Wien. Second Edition. Price, 14 marks. Paper. Pp. 102, with illustrations. Wien: Urban & Schwarzenberg, 1910.

HANDBOOK OF ELECTROTHERAPEUTICS. By William James Dugan, M.D., Lecturer on Electrotherapeutics at Jefferson Medical College, Philadelphia. Cloth. Price, $2 net. Pp. 242, with 91 illustrations. Philadelphia: F. A. Davis Company, 1910.

[illegible] TECHNIK FÜR DIE ÄRZTLICHE PRAXIS. Ein [illegible] zte und Studierende. Von Dr. Julius Schwalbe. [illegible] aper. Price, 22 marks. Pp. 979, with 537 illustrations. Leipzig: Georg Thieme, 1910.

A TEXT-BOOK OF PHYSIOLOGY. By Isaac Ott, M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. Third Edition. Price, $3.50 net. Cloth. Pp. 891, with 393 illustrations. Philadelphia: F. A. Davis Co., 1909.

THE VEGETABLE PROTEINS. By Thomas B. Osborne, Ph.D., Research Chemist in the Connecticut Agricultural Experiment Station, New Haven. Price, $1.20 net. Cloth. Pp. 125. New York: Longmans, Green & Co., 1909.

TUBERCULOSIS WORK IN BUFFALO. What We Are Doing and What We Plan for the Future. Paper. Ppp. 62, with illustrations. Buffalo Association for the Relief and Control of Tuberculosis, March, 1910.

MORTALITY STATISTICS, 1908. Department of Commerce and Labor, Bureau of the Census. E. Dana Durand, Director. Ninth Annual Report. Cloth. Pp. 705. Washington: Government Printing Office, 1910.

A SHORT HANDBOOK OF COSMETICS. By Dr. Max Joseph, Berlin. Third Edition. Authorized English Translation. Cloth. Price, $1. Pp. 86. New York: E. B. Treat & Co., 1910.

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RADIUM'S CONTRIBUTION TO SURGERY*

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I have long felt that the study of so novel and extraordinary an agent as radium should not be left exclusively to the student of physics or to the dermatologist, but that it be given a chance to demonstrate the virtues residing in it, if any there be, in the field of general surgery.

During the seven years past, in which it has been possible to obtain the material, I have taken many occasions to give trial to it, and while knowing my endeavors to demonstrate its utility are far from complete, this much can be said, that without prejudice I have applied it in 500 cases of disease, from the large field of exclusive surgical work and have found enough of interest in its application to warrant my speaking of it in the brief time allotted to me here.

From the first I have entertained the attitude of extreme scepticism, and can truly claim that with a wide and lifelong surgical experience my prejudices have been in favor of first resorting to all other surgical measures endorsed by time in cases in which I might desire to use radium. At the expenditure of much time, personal discomfort and expense, keeping an open mind, as it were, my one desire has been, not to exploit radium, but to test it.

A SURGICAL CURIOSITY

The absence of extensive records of its use in surgical literature is amply accounted for by the almost insuperable difficulty in obtaining a sufficient amount for study, and by the great cost of its production. It will be long before these conditions change materially, and it must to some extent remain a surgical curiosity. Yet, if its utility can be demonstrated in any definite way, its production and distribution will surely follow the law of supply and demand.

The world was hardly ceased to marvel at the ultra-scientific, almost inspired, research of Madame Curie, which rent the darkness and laid bare the unsuspected force of radiant energy in matter exhibited in the most demonstrable form of radium. As yet we know as little of it, as of the vital force that actuates our bodies, our functions, our intellects. The needs of surgery are greater than we are willing to admit. The ever-ready scalpel, caustic, cautery, medicine, are still our weapons.

For the moment dismiss from our thoughts serum therapy, vaccines and later laboratory products from which so much hope is raised, and look briefly at the one agent we have chosen to consider.

RADIO-ACTIVITY

The study of radio-activity is a wholly new science. From it has grown the realization that all matter is endowed with potential energy—atoms eternally breaking up and subject to the laws of death and decay. The instability of the ultimate atom is revealed for the first time in the discharge of electrons from atoms of radium, carrying their own charges of electricity, "if indeed, they be not electricity itself;" atoms, visible to the eye in their brilliant scintillation as they are shot into space and impinge on the fluorescent screen, or as they can be seen, diverted in the magnetic field, and weighed, timed and classified. The trained physicist accurately estimates their speed of travel, the varying electrical charge each carries, the changes they undergo and the ultimate transmutation into other elements.

Varieties of rays given off are productive of wholly different results when brought to bear on living structures. We must for the moment familiarize ourselves with the now commonly talked of *alpha*, *beta* and *gamma* rays, for we may soon learn to use them judiciously in practical work. The *alpha* are discarded; they have not been demonstrated to have any value therapeutically. They carry positive electricity on the shoulder of every atom; they can be sifted out by paper or by the glass wall of the tube containing radium and are better set aside for they only serve to burn the skin. The *beta* rays, however, are acquiring importance; these carry negative electricity and can be drawn this way and that by a magnet. They constitute the greater part of the available rays from radium. Some are held back by layers of obstructing films, as of lead foil, others penetrate deeper and others very deeply into living tissues. The *gamma* rays are more powerful and swift, penetrating all minor obstacles and even several inches of metal. But they carry no electric charge that is measurable.

Experience and experiment show that the softer *beta* rays are irritating to the skin, but can be held back by interposing thin lead foil between radium and the skin, allowing only the hard *beta* rays and the *gamma* to penetrate the tissues. This preliminary note prepares us to understand somewhat the results we see in living structures. As far as it is possible to understand this mysterious force, all we know is that we are dealing with a nascent electric atom, an electron, which supplies a negative discharge to the growth we are studying.

EFFECT ON NEW CELL GROWTH

In the play of radiant energy on a mass of new cell growth in a tumor, we often see a retrograde change, as striking as the shrinking of a mimosa plant under the touch of a human finger. Is there a supply of the needed electric balance, be it positive or negative, shot into the disorderly growth, which, perhaps, by exhaustion has lost its equilibrium? Certain it is that success or failure depends on supplying a limited amount of the varied rays which we can filter out by degrees of interposed screens of lead.

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* Oration before the Section on Surgery of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.

It is as if one were fighting with infantry, cavalry and artillery; or as if one loaded a gun with shot of varying size; the *alpha* rays do not escape from the tube, the *beta* may penetrate the muscles at varying depths, the *gamma* go clean through; but all leave something of themselves—a part of their electric charge—and some, the *beta*, remain to undergo change, probably, as Ramsey says, to helium. This unquestioned lodgment of material particles in the tissues accounts for persistent favorable action for weeks and months after treatment, and indeed for some secondary outbursts of dermatitis, when all effects seem to have gone by.

EFFECTS ON PLANT LIFE

It is impossible to overlook the mysterious power of radium over plant life, in considering its action on animals. Who can define the difference in the vital force actuating both? Let us expose seeds to radium rays, some for two hours, some for four, eight, twelve and so on; plant them in rows, beside one row which has had no radium. Watch them grow. Soon the normal one will have grown several inches; those longest exposed will have grown only an inch. Between these limits an exact growth proportioned to exposure will be shown. In other words, the mysterious rays have devitalized or inhibited growth proportionately to their time exposure. If we expose the seeds two days they will never grow. Here, then, *is one clue to the truth* in using radium. We may decide, after this experiment, at the start of our work, that there is a definite time treatment in all use of this agent in surgery, and it remains for us to work it out for every variety of growth.

EFFECT ON EPITHELIAL STRUCTURES

Let us consider one of the most commonplace, but the most characteristic types of cell tumor, the common wart. I ask you to consider that we are to use a specific agent, and to dismiss from your mind all thought that surgery has many other agents destructive of this growth. We propose not to destroy it, but to make it destroy itself. A wart is a simple overgrowth of the cells of the papillary layer of the skin. It may appear anywhere on the body, even in most inaccessible places, under the finger nails, on the sole of the foot, tongue, lips, eyelids, vocal cords. Apply radium to it for half an hour, and it will slowly retrograde until in four weeks the parts are as if nothing had been there. No cicatrix marks the spot as when caustics are used. The disorderly cells have simply resumed their orderly life. Nothing has been done, but a short bombardment of electrons carrying negative electricity. The result is infallible, and prepares us to wonder whether other, more succulent cells than those in this horny layer of the skin, will react as well.

The epithelial layer of the skin seems particularly susceptible. The basal-cell epithelioma, even when massive, is just as ready to undergo retrograde change as the papilloma. Nothing more startling can be seen in surgery than to watch even a good-sized epithelioma slowly yield after one or two applications of a small tube containing radium, and, losing its combative energy, melt away, draw back its budding edges, lose itself in the normal structures, and having decayed away leave only healthy tissue behind.

Such a clinical picture is to be seen every day. And what has been done? The vicious cell growth has been shot through by swift moving particles, leaving something of themselves, probably, in the tissue which they pierce in their transit through space.

WHY TUMORS GROW

If we only knew why they grow! That is more of a mystery than radiant energy. There is logical evidence that in some forms of new growth the body cells have become worn out.

In elderly people we often see a crop of epitheliomas on various parts, notably the face and hands. Often these are secondary to senile keratoses. Both show failing vitality. But, paradoxical as it may seem, the weakened cells grow exuberantly instead of dying and undergoing atrophy. Is it not fair to suppose that healthy growth is sustained by a balance of energy maintained in each cell, the loss of which upsets the equilibrium of control, and disorderly growth ensues? What follows immediately on applying the rays of radium, supplying negative charges, is a return to health. If less than a correct dose is given the relief is imperfect or temporary. Hence we can say that we medicate these exhausted cells with their own tonic, the *elixir vitæ* of cell life.

If one desires to argue that a specific germ life may be actuating the diseased growth, we must answer that that cannot be disproved, as yet.

EFFECT ON GERM LIFE

Cultures of staphylococcus, colon bacillus and other bacteria grow under a thin lead protective, but are killed on the surface of a Petri plate where radium rays play on them. Moreover, a less than lethal dose changes their virulence. A *Staphylococcus aureus* will change to an *albus*. All are so modified that, it may be, the life forces of natural repair are given a chance to conquer. This opens up a field of study not yet pursued.

RESULTS OF TREATMENT

What has been accomplished in epitheliomas of all grades, ulcerated or not, when situated on the skin, is that a healing and disappearance of the growth promptly follows a correct dosage of radium rays. This I have seen endure in perfection from three to six years in several cases. In others a slight recurrence showing an insufficiency of the first dosage, is at once overcome by renewed treatment, not more surprising than that malaria will recur when too little quinin has been given.

If we could accomplish the same result on the epithelial cancer of the wet surfaces as on the skin we might rejoice. But no such conquest can yet be claimed. Epithelial cancer of the lip, tongue, tonsil, pharynx, inside of the cheek, esophagus, stomach, rectum and uterus, are still the *bête noire* of the surgeon in spite of radium. This generous admission has given rise to an attitude of supercilious criticism by some uninvestigating members of our profession, that radium after all is a weak agent, applicable only to a few superficial conditions, better treated by the knife. So far from this common cant representing the truth, I propose to show a growing interest has widened out its sphere of influence. Let us not forget that very small quantities have as yet been available to the general surgeon.

Now, however, in England, Germany and America, following the lead of France, the most searching inquiry is being instituted, prompted by rivalry, fortified by science and corrected by criticism.

During several years I have selected a few grave cases from my own clinic, and have had many advanced and wholly inoperable cases thrust on me by good surgeons.

Having accurate notes of every case and every application of radium made during seven years, I can summarize the total outcome of treatment of these groups briefly as follows:

SUMMARY OF RESULTS

Of the lip, I have failed to cure any case. Patients shown two years ago by French observers as seemingly cured by filtration of rays are now dead from recurrences, I am informed. Dr. Wickham, the greatest living authority, recently confessed sadly that he had as yet failed to cure permanently any case of lip cancer. Cancer inside the cheek grows as if not treated; the same is true of the tonsil.

Of lingual cancer one has to speak cautiously. First, because they must be differentiated from ulcerated or non-ulcerated papillomas of the tongue, which may simulate malignancy. Of the latter, I have promptly and permanently cured four, (a section of one had shown undoubted epithelial changes).

Second, because an ulcerated cancer of the tongue is increased by foul bacterial infection. This is modified and improved by radium treatment. I have seen a long, deep, fungating cancerous ulcer of the entire side of the tongue, referred to me by the late Dr. W. T. Bull as inoperable, so far recover as to heal and retrograde until all that remained were two small nodes on the side of the tongue, which were undoubtedly the original cancer masses, lost in the infected mass first presented for treatment. At this stage Dr. Bull (always most conservative) said it was wonderful. But the retrograde process never proceeded further, and it was not many months before the extension of the cancer pursued the usual fatal course.

Third, epithelial growths in the tongue are often complicated by old syphilitic taint. So also chronic ulcers of the lip and cheek, with leucoplakia, which will not yield to medication. Almost without exception, these yield to judicious use of radium, in part, and often wholly, with cures that have been watched from one to three years.

In considering malignant growths of the esophagus, stomach, rectum and uterus in one group, we are facing that which defies every resource of our art, for as yet radium has no complete conquest to offer that has come to my knowledge, unless retardation and temporary relief be so regarded. Experience as yet is limited and the field large. Conscientious efforts and close study may resolve some of the clouds that cover this mountain of horror and obscurity. Although I have no roseate picture to present, I can truthfully say that enough has been seen to stimulate hope. Certain it is that where cachexia and hemorrhage accompany the advanced condition, the former is apt to disappear and the latter to cease after free use of radium.

If there were needed further proofs of the specific curative action of radium on certain tumors, it can be demonstrated in two cases of pure round cell growth. One, heretofore reported, still excites my wonder.

Case 1.—A tumor had grown on the lower eyelid of a man for a year; it occupied the central part and more than half the substance of the lid. It grew forward on the skin, upward and inward, to press on the eyeball. It engulfed the entire lid, beyond all semblance of edge or surface or skin. This purple growth had resisted faithful application of Roentgent rays for six weeks, and was still growing when presented to me to decide whether radium, or a plastic operation to create a new lid, was best. I laid a tube of radium on it an hour each day for four days. Then I waited. In two weeks shrinkage began; in four weeks it had half gone, and in eight weeks no trace of it was left.

Five years have gone by and to-day it is still impossible to say on which eye the tumor had been. There is a slight nick only on the sharp edge where a piece had been cut from the tumor for original microscopic study. Otherwise the edges of the lid are sharp and normal. The polished mucous surface and the skin are absolutely restored. The lashes have grown in.

In the original section made through the mass nothing but round sarcoma cells can be seen. Where were the original cells normal to the lid, the skin, the cartilage, the glandular structure, all engulfed by and apparently replaced by the neoplasm from which they have faultlessly reassembled?

Hand in hand with this instructive history of a cure, the only pure round-celled growth submitted to radium, one of even greater interest must be studied which lures on the surgeon and pathologist.

Case 2.—Six months ago, a child of four years was brought to my office, exhausted by the presence of a tumor in the right half of the abdomen, apparently renal sarcoma. Exploration showed an inoperable tumor embedded in the side, extending from the liver to the pelvis and from the vertebræ to the ribs. Its estimated weight was over four pounds. I inserted eight hollow thin celluloid tubes into different parts of the growth, into two of which strongest radium was placed. The others were for the time "dummies." Every six hours a dummy was replaced by a radium tube, so that even radiumization was obtained through the mass. During the succeeding month rapid gain in health followed. In two months the child was walking and eating and apparently restored to fine health and color, with shrinkage of the tumor in three months to one-sixth its former size. At five months I again cut away a central piece for examination and inserted radium hoping to further destroy the growth. It is too soon to say that beneficial reaction may not follow, but extension in mesenteric lymphatics is progressing slowly and not now controlled by radium.

Examination of the first pieces of tumor removed before radiumization showed massive small-cell sarcoma, with only a few scattered nerve cells; while after three months no small-cell sarcoma tissue remains, but nerve cells only. This agrees with gross appearances. The first section was a highly vascular purple mass; the second revealed a pale, inert, entirely altered tissue. In brief, though radiumization seems to have caused retrograde change of all the round-cell sarcoma, there is left neuroma structure in what was a teratomatous type of growth.

In these two cases we have seen a selective and alterative action antagonistic to a special type of new growth. But we stand more amazed at its unquestionable specific action against another type of highly specialized but destructive tumors, the giant-cell, or myeloid sarcoma. Six years ago I reported a restoration to health—through the application of radium only—of a young man's jaw, which had been in part destroyed by a soft giant cell growth. That patient remains absolutely cured to-day, with complete return to solid bone and with teeth firmly fixed in it.

During six years I have treated fourteen cases of giant cell growth by radium; with uniform demonstration of its selective action in causing retrograde changes. The first eight treated during the first three years remain as cured, though two have died of other causes, one and two years after perfect cure. The remaining six are too recent to report yet as cured, but show such characteristic change as to be probably included in future reports. The first ten I have reported in a paper read last winter.[1] Suffice it to say, a powerful and unique selective action against pure myeloid tumors can be seen when subjected to radium irradiation.

Again, there has been demonstrated a similar response, in a specialized type, of embryonic vascular tissue, nevoid growth. It is due to the assiduous and masterly work of Dr. Louis Wickham of Paris that several hundred cases of all forms of birth marks, from port-wine stains to deep angiomata, have been shown to yield results unparalled in surgery. Their shrinkage in size and return to a nearly normal color of skin, without destructive cicatrix (unless the treatment be overdone) has demonstrated in the hands of Wickham and De Grais a specific alterative and restorative action in this embryonic type of tissue, that adds another claim to the specific action of radium on endothelial growth, which shrinks the mass and obliterates without destruction of tissue. I have seen many of these beautiful results in the hands of these masterly French workers, which, however, will long challenge equality in less experienced ones.

EXPERIMENTAL

Finally a trial of this unique agent has been given in a large variety of morbid conditions, and necessarily in rather a desultory way, as leaders for research. It has been demonstrated beyond question that it exerts a beneficent action on many varieties of glandular hyperplasias, notably on some goiters. Two or three out of some fourteen remain cured from three to six years. Also, on parotid sarcomas, in which, of all surgical conditions, we need more efficient surgical help. In trachoma and obstinate vernal catarrh also there have been demonstrated some brilliant cures. In short, there has been shown the existence of a subtle force latent in radium, resembling that in Roentgen rays, but unlike it and supplemental to it, with specific action for certain cells found in specialized tumors, which causes retrograde degeneration and atrophy.

The cases are not yet sufficiently numerous nor long enough studied to classify in groups warranting definite promise of uniform results. The careful scientific study by four radium institutes now established in France, Germany, England and America promises ultimately to clear the atmosphere of doubt, and formulate definite rules guiding its correct usage.

13 West Fiftieth Street.

Teratoma of the Ovary with Carcinomatous Changes.—A solid ovarian tumor was removed from a child 12 years of age (Martland, *New York Path. Soc. Rep.*, December, 1909). Two weeks previous to admission the patient had sharp, stabbing pains in the abdomen, later becoming localized in the right side, accompanied by nausea and vomiting. A diagnosis of appendiceal abscess was made and the abdomen opened. The tumor was removed a week later. Adhesions to the abdominal wall and the omentum caused troublesome bleeding. The left ovary at the first operation showed no tumor but at a third operation was as large as an orange. The child died several weeks later with numerous nodular masses in the abdomen. On gross section a large portion of the tumor looked like myxomatous tissue. There were considerable areas of smooth muscle and many cysts lined with cuboidal and low cylindrical cells, containing blood or serum. In some parts typical glandular structures occurred, formed of a single layer of cylindrical cells. No cartilage, nervous tissue, fat, striated muscle or bone were found. After considerable study by the Pathological Society the above pathology was determined.

PURPURA CAUSED BY THE INGESTION OF THE IODIDS*

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Because of the numerous types of eruption that may be produced by the ingestion of the iodids the subject is fraught with the greatest interest. Very few lesions of the skin have not been caused, at one time or another, by small or large doses of iodin or its various salts. Hundreds of papers have been written on the subject as a whole or on some interesting phase of it. The literature is so large that I am compelled to limit my remarks to the eruptions of the purpuric type.

Although it is frequently difficult to ascertain accurately its past history in medicine, Coindet[1] was apparently the first to introduce iodin into the practice of medicine as a therapeutic agent. Ricord,[2] in 1839, mentioned various cutaneous eruptions that were caused by the ingestion of potassium iodid; the same author,[3] in 1842, referred to several cases in which he had seen the same drug produce a "veritable purpura hemorrhagica"; the purpuric eruption not having been mentioned in his first communication. Zeissl[4] stated that he had seen in very rare cases ecchymoses and telangiectases in the form of nevi, of the size of the head of a pin, produced by the administration of the salts of iodin. Cazenave[5] was the first to record the occurrence of bullous lesions, with sanguinolent serum, followed by ulcerations difficult to heal, caused by the ingestion of potassium iodid. The most complete papers written on the subject of iodism and the various eruptions caused by the absorption of iodin and its various salts have been compiled by Petitjean[6] and Bradley.[7]

I have been able to obtain references in the literature to eleven bullous and fifty non-bullous cases, all of the hemorrhagic type, exclusive of the two petechial cases reported in the present paper. Mora[8] and Welander[9] have also written papers on this subject, reporting cases of the purpuric type, but I have been unable to consult the articles.

HEMORRHAGIC BULLOUS CASES

Sex.—Four of the cases with hemorrhagic bullæ occurred in women (Pusey,[10] Elsner,[11] Broadbent,[12] Taylor[13]); five in men (Russell,[14] Gottheil,[15] Morrow,[16] Bumstead,[17] McGuire[18]); and two in children, the sex being unspecified (Hudelo and Lebar,[19] Hallopeau and Lebret[20]).

Age.—The youngest case reported of the hemorrhagic bullous type, occurred in a child of 10 years (Hallopeau and Lebret[20]); another developed under the age of 20 years (Hudelo and Lebar[19]); one patient showed the idiosyncrasy at 28 years (Bumstead[17]); another at 39 years (Broadbent[12]); one patient was attacked at 45 years (Gottheil[15]); another at 49 years of age (Elsner[11]); one at 50 years (Morrow[16]); one at 51 years (McGuire[18]); and the ninth, at 68 years of age (Russell[14]). The ages of two of the patients were not mentioned (Pusey,[10] Taylor[13]).

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[1] Radium as a Specific in Giant-Cell Sarcoma, Med. Rec., New York, Jan. 1, 1910, p. 1.

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Cause of Administration.—In four of the eleven cases, the drug was administered for syphilis (Bumstead,[17] Gottheil,[15] Hallopeau and Lebret,[20] Hudelo and Lebar[19]); in pneumonia (McGuire[18]); in Bright's disease (Broadbent[12]); for rheumatism (Russell[14]); for a "cold" (Elsner[11]); and in three cases the disease for which the drug was prescribed was unspecified (Morrow,[16] Taylor,[13] Pusey[10]).

Length of Administration and Quantity of Drug Given.—The quantity of the drug and the length of administration varied considerably in the eleven cases with sanguinolent bullæ; in some but a few small doses produced the outbreak while in others hundreds of grains of potassium iodid were ingested before the point of intolerance was reached. In Bumstead's[17] case the eruption appeared after taking three 20-grain doses of potassium iodid; the outbreak was noted in Taylor's[13] case after 1 dram had been ingested; hemorrhagic bullæ appeared on Elsner's[11] patient after nine doses of potassium iodid had been administered, grains four having been given every six hours; McGuire's[18] patient took a total of 20 grains of the ammonium iodid in 1¼-grain doses; the eruption appeared in Broadbent's[12] case after taking potassium iodid in 3-grain doses during a period of five days; Pusey[10] prescribed for his patient 7½ to 10 grains of potassium iodid three times daily; Russell's[14] patient took 15 grains of iodin in three days; Morrow's[16] patient received 900 grains of potassium iodid in the space of ten days; Gottheil[15] administered 100 grains of potassium iodid daily for six days; Hallopeau and Lebret[20] produced the eruption experimentally on giving 3 gm. of potassium iodid. The dose or the quantity of the drug prescribed was not mentioned by Hudelo and Lebar.[19]

Character of Eruption.—The eruption was multiform, chiefly, however, consisting of hemorrhagic bullæ in Morrow's[16] case. Gottheil[15] recorded the presence of hemorrhagic vesicles and bullæ. Hemorrhagic bullæ with subsequent ulcerations were noted in three cases (Taylor,[13] Russell,[14] McGuire[18]). Pusey[10] reported the occurrence of sanguinolent bullæ, ulcerative and gangrenous areas in his case. In Bumstead's[17] case purpuric spots, clear and hemorrhagic bullæ, and ulcerations were all present. Elsner[11] recorded the presence in his patient of hemorrhagic and clear vesicles and bullæ, wheals, and nodular lesions. Hallopeau and Lebret[20] reported a remarkable case, in which hemorrhagic vesicles and bullæ, macular petechiæ, infiltration plaques, papillomatous lesions, and callous areas were produced by the ingestion of potassium iodid. Hudelo and Lebar's[19] patient exhibited large ecchymotic areas, small petechiæ, hemorrhagic bullæ, and a tuberculid of an angiokeratoma type was also present.

Distribution.—The arms, the hands, the face and the legs were attacked in the cases of Broadbent[12] and Gottheil.[15] The lesions were limited to the face, the hands, and the forearms in Morrow's[16] and Elsner's[11] cases. The feet, the lower legs, the face and the hands were involved in Bumstead's[17] patient. Taylor[13] noted the eruption on his patient on the face, the arms and the gluteal region. The face, the shoulders, the groins, the back, and the scalp were attacked in McGuire's case.[18] The face, the scalp, the neck, the chest, the arms and the legs were involved in Russell's[14] case. Hudelo and Lebar[19] reported the involvement of the arms, the neck, the legs and the feet. The distribution was generalized in the case reported by Hallopeau and Lebret.[20] Pusey[10] did not mention the distribution of the eruption.

PURPURIC NON-BULLOUS CASES

Sex.—Ten cases occurred in patients of the female sex (Fournier,[21] Cruveilhier,[22] Silcock,[23] Walter Smith,[24] Morrow,[25] Janovsky,[26] Labat,[27] Waren Tay,[28] Barlow,[29] Raymond[30]); twenty-two developed in the male sex (Ringer,[31] Debuchy,[32] Robinson,[33] Bradbury,[34] Duckworth-Gee,[35] Bernart,[36] Fournier,[21] and Suchanek,[37] each two cases, Ricord,[3] Duffy,[38] Barton,[39] Neumann,[40] Petitjean,[41] Payen,[42] Lemoine,[43] J. H. Wilson,[44] Colcott Fox,[45] Abbe,[46] Hoening,[47] Vidal[48]); and the sex in eighteen cases was not specified (Mackenzie,[49] Petitjean,[50] Virchow,[51] Neumann,[52] Pernet,[53] two cases, Fournier,[21] twelve cases).

Age.—The youngest case reported occurred in a child of 5 months (Mackenzie[49]). Ringer[31] reported a case at 17 years; Janovsky[26] one at 22 years; Petitjean's[41] was noted at 23 years of age; Suchanek's[37] patient developed the eruption at 24 years; Duffy's[38] patient showed the outbreak at the twenty-fifth year; the case of Duckworth-Gee[35] developed at 29 years; four cases were recorded at 30 years of age (Fournier,[21] Neumann,[40] Colcott Fox,[45] Abbe[46]); Bernart,[36] reported a case at 31 years; Lemoine's[43] occurred at 32 years; Barton,[39] noted his case at 35 years; Walter Smith[24] observed his patient at 39 years; the outbreak developed in Barlow's[29] patient at the forty-second year; Labat's[27] case showed the exanthem at the forty-third year; the eruption appeared in Waren Tay's[28] patient at the age of 44 years; the outbreak in Suchanek's[37] second patient occurred at the forty-sixth year; the eruption appeared in Vidal's[48] case at 50 years of age; a case reported by Raymond,[30] developed at 53 years; Bradbury's[34] patient was 58 years old when the eruption appeared; the outbreak attacked Robinson's[33] patient at 53 years of age; Hoenning reported the case of the oldest patient (aged 64) in whom the eruption appeared. The age of the patients on whom eruption of petechiæ and ecchymoses developed were not mentioned by Fournier,[21] fourteen cases, Pernet,[53] two cases, Ricord,[3] Cruveilhier,[22] Silcock,[23] Petitjean,[50] Morrow,[25] Payne,[42] J. H. Wilson,[44] Neumann,[52] Virchow,[51] Debuchy.[32]

Cause of Administration.—The drug was administered for syphilis in eighteen cases (Bernart,[36] Fournier,[21] three cases, Cruveilhier,[22] Silcox,[23] Suchanek,[37] two cases, Walter Smith,[24] Petitjean,[50] Janovsky,[26] Payen,[42] Barlow,[29] Colcott Fox,[45] Abbe,[46] Hoening,[47] Vidal,[48] Mackenzie,[49]). It was given in the treatment of rheumatism in eight cases (Duffy,[38] Labat,[27] Lemoine,[43] J. H. Wilson,[44] Raymond,[30] Bradbury,[34] Ringer[31] Debuchy[32]). The iodid was given in one case for paralysis (Barton[39]); for leprosy in another (Pernet,[53]) for atrophy of the optic disc in a third (Waren Tay[28]); for uratosis in one case (Robinson[33]); and in another for cancer (Virchow[51]). The indication for the use of the drug was not specified in nineteen cases (Fournier,[21] twelve cases, probably given for syphilis, Duckworth-Gee,[35] Ricord,[3] Petitjean,[41] Pernet,[53] Morrow,[25] Neumann,[40, 52] two cases).

Length of Administration and Quantity of Drug Given.—Mackenzie[49] described a case in an infant of 5 months in which the eruption appeared in three-quarters of an hour, after 2½ grains of potassium iodid had been given. In Colcott Fox's[45] case the eruption developed after two doses of 5 grains each, of potassium iodid had been administered about six hours apart. Three 5-grain doses of potassium iodid caused the outbreak in the case reported by J. H. Wilson.[44] In Robinson's[33] case potassium iodid was given in grain doses three times daily; the eruption occurred after six days of medication. The outbreak appeared in a few days in Labat's case[27] after giving 3-grain doses. Lemoine[43] prescribed 1 gm. of sodium iodid daily; the next day the eruption appeared, twenty hours after the drug was administered. Ringer[31] gave his patient 10 grains of potassium iodid three times each day; the rash appeared in five days. Waren Tay[28] produced the eruption on prescribing 1.5 gm. of potassium iodid daily. Petitjean[50] gave between 3 and 4 gm. of potassium iodid daily; the outbreak occurred in four days. Abbe[46] prescribed 10 grains of potassium iodid three times daily; the eruption appeared after two weeks' administration. Raymond[30] gave 50 cg. of potassium iodid in two doses daily; after ten days the dose was increased to 1 gm. daily; the outbreak occurred after 8 gm. of the drug had been ingested. In Vidal's[48] case 15 grains of potassium iodid were given three times each day; the exanthem appeared after the drug had been taken for three weeks. Barlow[29] ordered 1 gm. of the drug to be given daily; at about the third week the potassium iodid was increased to 1.5 gm. each day; two days later the rash developed. The eruption appeared in Janovsky's case[26] after 24 gm. had been administered; 2 gm. sodium iodid having been given daily. Hoening[47] prescribed a mixture of sodium and potassium iodids; 40 gm. of this combination were given in twenty days. Silcock[23] gave 10 grains of potassium iodid three times a day; the dose was increased after fifteen days to 15 grains three times daily; seven days later the eruption appeared. Duffy[38] prescribed for his patient 10 grains of potassium iodid three times each day; the dose was increased three weeks later to 15 grains three times daily; 2½ ounces of the drug were given; the outbreak occurred in one month's time. Suchanek[37] gave a total of 42 drams in one case and 23 drams of potassium iodid in the other. In Duckworth-Gee's[35] case 50 cg. were given daily; 6 gm., in all, were ingested. In Payen's[42] case the eruption appeared after two months treatment with the iodid of iron. The eruption occurred after administering potassium iodid for five days in Bernard's case.[36] Moderate doses of potassium iodid were given in Fournier's[21] three cases; the purpuric spots appeared in one week, five days, and a few days, respectively. The rash appeared after a few doses in Debuchy's case.[32] The outbreak occurred in Ricord's[3] case after potassium iodid had been given for fifteen days. After the drug had been given but a few days the exanthem appeared in the case reported by Walter Smith.[24] The eruption appeared on Barton's[39] patient in three weeks' time, small doses of potassium iodid having been prescribed. The dose of the drug and the length of administration were not mentioned in twenty of the cases (Cruveilhier,[22] Neumann[40, 51] and Pernet,[53] each two cases; Petitjean,[41] Bradbury,[34] Virchow,[51] Fournier,[21] twelve cases).

In a few instances the eruption appeared some days after the drug had been discontinued. Suchanek[37] recorded a case in which the eruption appeared eight days after the iodid had been stopped. In the hemorrhagic bullous case reported by Morrow[16] the eruption did not reach its height until five days after the potassium iodid had been intermitted. In the case with hemorrhagic bullæ recorded by McGuire[18] the lesions continued to appear for ten days after the drug was discontinued. Broadbent[12] also recorded the fact in his hemorrhagic bullous case that the eruption continued to appear for six days after the potassium iodid had been stopped. The purpuric exanthem continued to appear for eight days in one of Suchanek's[37] cases, and for twenty-six days in the other. Outbreaks of purpura from the iodid continued for ten days in Janovsky's[26] patient, and for three weeks in Raymond's[30] case.

Type of Eruption.—In all of the non-bullous cases, except five, the eruption was entirely purpuric in type. The lesions were mostly from small to large pinhead in size; in Hoening's[47] case, however, some of the ecchymoses were one-quarter dollar in dimensions. Duckworth-Gee[35] described, in the case reported, a herpetic eruption with a purpuric areola. In Neumann's[40] patient the eruption was chiefly papillomatous or pustular; some of the lesions were petechial. In one of the two cases reported by Petitjean[41], with purpuric lesions, the predominant type consisted of furuncles and pustules. Vidal[48] noted in his case a papular outbreak on the trunk and a purpuric eruption on the legs. The outbreak in Debuchy's[32] case consisted of a vesicular as well as a petechial eruption; an eczema was also present.

Distribution.—The eruption was, in a great majority of the cases, localized to certain portions of the body, chiefly the lower extremities. The eruption was generalized in Hoening's[47] case. The outbreak was generalized, excepting the chest, the back, and the hairy scalp, in Neumann's[40] patient. The upper and lower extremities and the shoulders were attacked in the case reported by Mackenzie.[49] There was extensive involvement in Lemoine's[43] case; the thighs, the abdomen, the lumbar region, the chest and the arms are the areas attacked. The entire face, the forearms and the neck were the areas of predilection in Duckworth-Gee's[35] patient. The scrotum, the thighs and the legs were involved in Bernart's[36] case. The upper and lower extremities were attacked in two cases (Janovsky,[26] Bradbury[34]). The forearms and the lower portion of the legs were involved in three cases (Colcott Fox,[45] Abbe,[46] Robinson[33]). Raymond's[30] patient showed the lesions distributed on the arms, the hands and the legs. The hands and the legs were the seats of attack in the case recorded by Debuchy.[32] J. H. Wilson[44] noted the distribution in his patient on the lower legs, and the dorsum of the feet. The eruption was limited to the lower abdomen in one case, and attacked the lower abdomen and the extremities in the other case of Suchanek's.[37] The lower extremities alone were attacked in eight cases (Cruveilhier,[25] Silcox,[23] Barton,[39] Waren Tay,[28] Vidal,[48] Ringer,[31] Petitjean,[41, 50] two cases). The eruption was limited to the lower portion of the legs in twenty cases (Duffy,[38] Ricord,[3] Walter Smith,[24] Payen,[42] Labat,[27] Barlow,[29] Fournier,[21] fourteen cases). In one of Fournier's[21] fifteen cases, the outbreak was not only found on the lower legs but lesions, purpuric in type were also scattered on the trunk. The distribution of the eruption was not specified in five cases (Morrow,[25] Neumann,[62] Virchow,[51] Pernet,[53] two cases).

Mild symptoms of iodism preceded or accompanied the eruption in several of the cases, notably in those reported by Petitjean,[50] Janovsky,[26] Barlow,[29] J. H. Wilson,[44] and Debuchy.[32] Severe symptoms of iodism were observed in Mackenzie's[49] and Raymond's[30] fatal cases.

Edema of the glottis was caused by the drug in two of the cases (Petitjean[50] Neumann[52]). Several authors have referred to edema of the glottis caused by the ingestion of potassium iodid. Nelaton,[54] Lawrie-Adair,[55] and Fenwick[56] have reported cases of this character. Weist[57] recorded an interesting history; a woman of 28 was instructed to take 50 grains of potassium iodid a day; eleven hours after the first dose was administered a generalized edema developed.

Mucous Membrane Involvement.—The mucous membranes were attacked in two of the hemorrhagic bullous cases. Hemorrhagic bullæ were found on the tongue and the roof of the mouth in the case reported by Taylor.[13] Russell[14] recorded the occurrence of bullæ filled with blood in the nares in his case. The mucous membranes were attacked in five of the non-bullous petechial cases. Purpuric spots were noted on the left conjunctiva in Duckworth-Gee's[35] patient. A hemorrhagic eruption was present on the gums in the patient of Suchanek.[37] Numerous ulcers were found on the walls of the stomach near the pylorus in Neumann's[52] patient, supposedly caused by the ingestion of potassium iodid. The roof of the mouth exhibited petechiæ in Hoening's patient,[47] and on the hard palate in the one reported by Mackenzie.[49] Milain[58] described a case in which ecchymotic spots were found on the palate, which appeared on starting the drug and disappeared on stopping the same. There was a papulopustular eruption on the face, the back and the limbs caused by the potassium iodid, but there were no purpuric lesions on the cutaneous surface.

Hemorrhage from Mucous Membranes or Organs.—Boinet[59] in 1865 mentioned the fact that the ingestion of iodin may cause hemorrhage from the lungs and the intestines. Rodet[60] recorded an interesting case in which a man of 35 was attacked by hemoptysis whenever potassium iodid was given. DeBolze[61] reported an instance in which a blood-tinged cough was produced whenever the iodids were given; no signs of phthisis were present. Lindsay[62] referred to a case in which a woman of 58 after taking a few doses of potassium iodid developed the catamenial flow, which had been absent for twelve years. This flow continued for the entire week during which the drug was given. The administration of the iodid also caused symptoms of iodism and a bullous, non-hemorrhagic eruption.

In the present series two of the hemorrhagic bullous cases and five of the petechial, non-bullous cases exhibited phenomena of this character. Hemoptysis was noted in Broadbent's[12] case. Elsner's[11] patient vomited blood and passed the same by the rectum. Epistaxis and bleeding from the gums were noticed in the case reported by Duckworth-Gee.[35] Cerebral hemorrhage was present in Neumann's patient; whether caused by the drug or from some other condition is not clearly stated by the author. Epistaxis was caused by the drug in the cases recorded by Janovsky,[26] Bradbury[34] and Abbe.[46]

Organic Disease Present at the Time of Administering the Iodid.—Heart or kidney disease, one or both, were present at the time the drug was administered in four of the cases which developed the hemorrhagic bullous lesions, and in six of the non-bullous cases. Disease of both the heart and kidneys were found in Morrow's[16] and Gottheil's[15] patients. Disease of the kidneys was found in the case recorded by McGuire.[18] Broadbent's[12] case exhibited nephritis, pericardial trouble and a pleuritic condition of the lungs. Nephritis was discovered in the two cases reported by Neumann[40, 52]. Valvular disease of the heart was present in the case recorded by Duffy.[38] Nephritis and valvular disease of the heart were found in Lemoine's[43] and Pernet's[53] cases. Pericarditis, congestion of the lungs, aortic and mitral lesions, hypertrophy of the heart, and disease of the kidneys were all noted in Duckworth-Gee's[35] patient

CASES OF THE AUTHOR

Case 1.—Helen L., aged 27, born in Germany, came to the skin dispensary of the Pennsylvania Hospital, April 13, 1906. There were no derangements of the heart or kidneys present, and her past history was negative. A few weeks previous to her visit to the dispensary she obtained a mixture at a drug store for pains in her muscles and joints. The patient stated that the mixture contained potassium iodid. After taking the preparation for some weeks, ten days before coming to the dispensary an eruption appeared on the lower extremities. The lesions were limited to the lower extremities, extending from the upper thighs to the ankles, and consisted of bluish and reddish-blue, pinhead to split-pea-sized macules, from which the color could not be pressed. The eruption disappeared a few days after stopping the medication. To prove whether or not the iodid was the etiologic factor, one week after the disappearance of the lesions the drug was again given. Potassium iodid was given in 10-grain doses three times daily; on the second day 11 grains were given at a dose, on the third, twelve grains three times during the day, and the administration was continued in the same ratio. When the dose had been gradually raised in this manner to 17 grains three times daily, a purpuric eruption developed with the same characteristics and distribution as the first outbreak, previously described.

Case 2.—Mary H., a very light mulattress, aged 40, born in North Carolina, came to the skin dispensary of the Pennsylvania Hospital, July 13, 1906. The patient had previously been treated in Dr. Morris Lewis' ward at the Pennsylvania Hospital for aneurism and aortic insufficiency. No history of rheumatism could be obtained. The urine contained no albumin or casts. The patient was given 10 grains of potassium iodid, three times a day. The drug was started April 15 and continued until the patient's visit to the dispensary. A few days before she came to the skin dispensary the eruption appeared on the legs. The purpuric lesions were large, pin-head in size and limited to the tibial aspect of the lower legs. The eruption disappeared a few days after the drug was stopped. One week after the disappearance of the lesions the drug was again given. Five grains of potassium iodid were administered three times daily. After the drug had been taken for twenty days the purpuric eruption again appeared on the same areas as previously exhibited the outbreak.

Potassium iodid is not the only salt of iodin that may produce an eruption, as the outbreak was produced in Lemoine's[43] patient by sodium iodid and also in the case reported by Janovsky.[26] The iodid of iron was causal in Payen's[42] case. The eruption was caused in Hoening's[47] patient by a combination of the sodium and the potassium iodids. Both the ammonium and the potassium iodids, separately, produced the outbreak in Duffy's[38] and Ringer's[31] cases. The latter writers however, reported negative results with the sodium iodid.

The same individual may have an idiosyncrasy to more than one drug. Raymond[30] found that his patient had also a marked intolerance for 5 cg. of santonin, and for 2 gm. of sodium salicylate.

Pathology.—Tilbury Fox[63] believes in the follicular and sebaceous gland origin of all types of iodid eruption. Fox and Gibbes[64] found that the small arteries were blocked and the vessels were affected in every section examined by inflammatory changes. Engman and Mook[65] found in the examination of papules, pustules and macules from numerous cases of iodid eruption that the sebaceous glands and the follicles were not primarily affected by the drug, practically all of the changes occurring in the neighborhood of the blood vessels. Thin[66] found in the acne form of eruption, caused by the ingestion of potassium iodid, limited edema with congestion of the vessel; in the bullous or pustular form an effusion of serum with more or less of the formed elements of the blood, and in the purpuric type destruction of the wall of the vessel and hemorrhage. Thin[66] *points out the tendency of iodin* when present in the blood current to *attack* special points of the vessels, thus explaining all the varieties of eruption caused by iodin. As an explanation of the purpuric eruption he suggests that a portion of the vessel is so suddenly and completely destroyed that the local changes are limited to effusion of a small quantity of pure blood, and to plugging of the vessel. The specimen examined by Thin[66] showed the changes limited to a small part of the vessel, which was dilated at that spot and blocked by coagulum. Duckworth and Harris[67] found the blood vessels were very numerous in *all of the specimens* examined. The sebaceous gland origin of the various types of iodid eruption can probably be excluded, as most authorities do not agree with the original findings of Tilbury Fox.[63] As Biesiadecki[68] *and others have never been able* to demonstrate the presence of either sebaceous glands or lanugo follicles on the palms of the hands, and as Duhring[69] and Hyde[70] have each reported eruptions from potassium iodid on this area, the sebaceous *origin of the outbreak* is evidently disproved.

Absorption and Elimination.—Arnozan and Carles[71] have gathered together in an excellent paper the facts regarding the role the leucocytes play in the *absorption* of certain medicines, including iodin. The latter phase of the subject has been particularly studied by Stassano and Bourcet.[72] The leucocytes absorb the iodin and carry this drug, with which they are charged, to different tissues or organs of elimination. The drug absorbed may undergo various changes in the leucocytes, being transformed by the action of various ferments which these cells contain. The drugs may be stored by these cells at various points and thus give rise, under various circumstances, to a pathologic effect. Ménière,[73] after a great many experiments, *concluded* that the time required for the absorption of the salts of iodin and their elimination by the salivary glands is on an average from eight to ten minutes; when the stomach is full the elimination is retarded *from* thirty to forty minutes. If the stomach is absolutely empty and the potassium iodid is given in a warm liquid of some stimulating power, such as tea, elimination may be detected *in the* saliva in from two to three minutes. According to this same investigator absorption of this drug occurs most rapidly by the bronchial mucous membrane; it takes slightly less than double the time for absorption to occur by the stomach and the esophagus as by the bronchial mucous membrane. Quincke[74] found the presence of iodin in the small intestine, the saliva, the urine, the serum of the blood and in the aqueous humor, but not in the stomach or the large intestine, one and one-quarter hours after a hypodermic injection of the drug had been given; while it took almost two and one-half hours to produce the same results *after* ingestion through the stomach.

Iodin has been found in the urine in several of the cases in this series, Janovsky[26] noted the reaction for the drug for six days after the medication had been stopped; iodin was found in the urine in Pusey's case.[10] Berg[75] gave a venous injection of from one hundred to one hundred and thirty grains of potassium iodid in animals and iodin was found in the urine after fifteen minutes had elapsed. Marshall[76] recovered 265 grains daily in a case of Wood's, in which 360 grains of potassium iodid were taken daily. According to Sée,[80] the reaction to the drug may exist in the saliva after it has disappeared from the urine.

Adamkiewicz[77] mixed the pus from the pustules caused by the ingestion of the iodid with starch and *added* a few drops of very dilute nitric acid, and obtained the reaction of iodin. The *test for iodin* in Gottheil's case proved negative. Engman and Mook[65] in a valuable series of experiments on numerous patients with *various types* of iodid eruption proved the elimination of iodin through the skin. They *found a positive* reaction of the pus in every case examined, iodin being distinctly present. Skin free from any lesions, although *an iodid eruption* was *present* on other portions of the body, was blistered by them in two cases and the serum from these blisters was investigated. In each instance iodin was readily discovered, thus proving that iodin occurred in *chemical combination* in all the tissues of the body. Taylor[78] believes that iodin is eliminated in certain cases by the sweat-glands, citing a case to prove this assertion.

Prognosis.—The administration of the iodids, particularly in large doses, to those individuals who have a strong idiosyncrasy to the drug, or in cases with organic *disease of the heart or the kidneys, is frequently* a dangerous procedure. Seven out of the eleven hemorrhagic, bullous cases ended fatally, and two of the nonbullous, petechial type. Elsner's[11] patient died five days *after the drug was started!* Russell's[14] patient succumbed on the tenth day after the drug was first given. The patient whose case is reported by Pusey,[10] died ten days after the appearance of the eruption. The *termination* was fatal in Gottheil's[15] case, seventeen days after the medication was commenced. Broadbent's[12] case ended fatally three weeks after the drug had been given on a second trial. Morrow's[16] and McGuire's[18] patients died six weeks after the drug was first administered. Mackenzie's[40] case proved fatal sixty-eight hours after one dose, 2½ grains of potassium iodid, had been *given to a child of five months.* In Duckworth-Gee's[35] case, the patient died on the tenth day after the drug had been started.

Fournier[21] has had more opportunity to study purpura caused by the ingestion of potassium iodid than any other observer, as he has reported in one series fifteen cases. According to his observations, if the drug is given in the same moderate dose over an uninterrupted period the purpuric eruption produced by the potassium iodid is apt to lessen in severity until there is an almost complete disappearance, even while the small dose of the drug is continuously given; if, however, the dose of the drug is considerably increased, a fresh outbreak will occur which is usually not so severe as the first attack. If the drug is stopped for a few weeks, and the same small dose is given as in the first instance, an eruption will again be produced but the outbreak is usually not so severe as the lesions first caused by this small dose. *The experience* of Fournier[21] has coincided with the observation of more recent writers on the subject. A certain tolerance, therefore, seems to be formed to the drug in a great many individuals who are *susceptible to this medication*, but the tolerance is but transitory, as the increase of the dose, while the drug is being taken in moderate quantities, will produce a fresh outbreak, or if the drug is stopped for but a few days the tolerance is lost and the original dose, or even a smaller quantity, will again produce the eruption.

The decreased dosage causing the eruption is well exemplified in the bullous, non-hemorrhagic case described by Besnier,[79] in which the outbreak was first caused by 2 gm. of potassium iodid, on a second occasion by 1 gm. and a third time by 10 cg. The eruption was first produced in Duffy's[38] case by 2½ ounces of potassium iodid, and on another occasion by 15 grains. In Abbe's[40] case the eruption was produced on six different occasions, each time less of the drug being required to cause the outbreak; the eruption first appeared after 10 grains of potassium iodid, three times daily, had been given for two weeks; the fifth and the sixth attack was caused by three and by two 5-grain doses respectively. The eruption was at first caused in Raymond's[30] case by giving 8 gm. of the drug, in divided doses, the second outbreak was induced by administering 3 gm. in five days. On the first occasion the exanthem appeared in Ringer's[31] case after 10 grains of potassium iodid three times each day had been given for five days, the eruption was reproduced by prescribing four 10-grain doses of the drug. The outbreak first occurred in McGuire's[18] case after 20 grains of ammonium iodid had been given; on a second occasion 5 grains sufficed to produce the hemorrhagic bullæ. The administration of 1.5 gm., of potassium iodid in Waren Tay's[28] patient produced the eruption on five different occasions in nine weeks. In one of my cases the eruption was reproduced by one-half of the dose of the drug and in one-quarter the length of time required for the first outbreak.

After a careful study of sixty-three cases of purpura caused by the ingestion of potassium iodid, eleven being of the hemorrhagic, bullous type, I feel justified in making two provisional groups of these eruptions. In the first group may be placed all those cases in which there is some organic disease, some lowered condition of the general economy which makes the individual more susceptible to the effects of the drug, and those with a strong idiosyncrasy to the iodid. The bullous eruptions of the hemorrhagic type and the petechial cases with a somewhat generalized outbreak should be classed in the first group. In the second group the patient is found in the best of health, and there is absolutely no way of explaining the outbreak except on the hypothesis of a mild idiosyncrasy to the drug. In this latter group should be placed the purpuric cases with a very localized distribution, which have the tendency to remain limited, particularly to the lower portion of the legs. Fournier's[21] fifteen cases should be taken as the type of case belonging in the second group. There is probably no doubt that in the localized cases of purpura, caused by the iodids, in which small doses of the drug have been administered, the eruption may be made general and severe if the drug is continued in very large doses over a long period of time. The drug should be used with the greatest care in those individuals with some organic lesion, in whom the general condition is below par, and as a safeguard the beginning dose should be small, as a strong idiosyncrasy to the iodid may be present.

SUMMARY

Purpuric eruptions caused by the ingestion of the iodids may be divided into two provisional groups.

The first group includes the extensive petechial and hemorrhagic, bullous cases, which occur in those individuals with organic disease, particularly of the kidneys or the heart, or with a lowered condition of the general economy, making them more susceptible to the effect of the drug, or with a strong idiosyncrasy to the same.

The second group includes all cases with a localized distribution, particularly those in which the eruption is limited to the lower extremities or the lower legs, which occur in those individuals in perfect health, and which can be explained only on the theory that a mild idiosyncrasy to the iodid is present.

Sex and age have nothing to do with the occurrence of the eruption, although most of the cases developed during middle life, and a considerably larger percentage of males were attacked than females.

The drug was administered in twenty-two of the sixty-one cases for syphilis, for rheumatism in nine cases, and in the remainder in numerous other conditions, none of which apparently exerted any predisposing influence.

The quantity of the drug given and the length of administration varied so markedly that an average dose or the length of time of continuance cannot be stated, the personal element alone deciding the question of an eruption.

The eruption was chiefly of one type, either the petechial or the hemorrhagic bullous, although in a few cases other forms of iodid lesions were present.

In the hemorrhagic bullous cases, although in several the eruption was somewhat generalized, the face and the extremities were mostly involved, particularly the face and the arms.

In the petechial type the eruption in a great majority of the cases was limited to the lower extremities, particularly the lower portion of the legs; in a few cases, however, the outbreak was somewhat generalized or noted on the upper as well as the lower extremities.

Mild symptoms of iodism were present in a few cases, and severe reaction to the drug was noted in two cases. Edema of the glottis was found in two instances.

Lesions were found on the mucous membranes in a few cases; hemorrhages occurred from the mucous membranes or from various organs in a few others.

Organic disease of the kidneys and the heart were found in but few—ten out of sixty-one cases.

The various salts of iodin are all capable of causing a purpuric eruption.

The pathologic changes of the skin were noted in the immediate vicinity of the blood-vessels and in the walls of the vessels themselves.

Iodin is rapidly absorbed by all mucous and serous surfaces and rapidly eliminated, chiefly by the kidneys and also through the skin itself. The leucocytes play a distinct rôle in the absorption of the drug.

Hemorrhagic bullous cases, of extensive distribution, are frequently fatal, seven out of the eleven in this series ending fatally.

Petechial, non-bullous cases rarely terminate in death, unless there is marked disease of the heart or kidneys or a very extreme intolerance to the drug; two out of the fifty cases of this type ended fatally.

In conclusion I wish to express my thanks to Dr. Charles N. Davis for the privilege of reporting the two cases and to make a plea for smaller doses of the iodids.

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ABSTRACT OF DISCUSSION

Dr. J. A. Fordyce, New York: I do not think we ought to allow this occasion to go by without deprecating the reckless way in which potassium iodid is given, not only by the general practitioner, but by the specialist. In syphilis it is frequently given in doses of several hundred grains daily, and in the majority of those cases the same benefit could be derived from thirty, or, at most, one hundred grains daily. We are entirely too reckless in the administration of the drug, and have overlooked the fatalities that have been reported from its excessive use. In some instances, these harmful effects are due to excessively large doses; in others, to an over-susceptibility on the part of the patient. Dr. Knowles' paper also emphasizes the importance of looking into the condition of the eliminative organs before we resort to large doses of potassium iodid.

Dr. Howard Fox, New York: In connection with this rare form of eruption due to the ingestion of potassium iodid, I should like to call attention to another rare form, a case of which I recently presented before the New York Dermatological Society. The eruption was a very extensive one of the purely bullous type. When the patient, a colored girl of 12 years, came to the Vanderbilt Clinic, she presented a number of unpigmented circinate lesions that we were disposed to regard as dermatitis herpetiformis of the circinate and bullous type. The patient gave a history of having taken five weeks previously a bitter medicine in doses of ten drops three times a day for one week. At the suggestion of Dr. George T. Jackson she was given iodid of potash, ten drops three times a day. After the second dose an eruption consisting of large, tense, clear bullæ appeared on the whole body, more especially on the legs. Iodid was found in the contents of the bullæ and in the urine. The case is mentioned as an unusual form of an eruption produced by potassium iodid in an extremely susceptible patient.

Dr. F. C. Knowles, Philadelphia: In reference to the possibility of an eruption being produced by small doses of potassium iodid, I would refer to the case of Mackenzie, who described a case in an infant of five months where a small dose produced an eruption in 45 minutes, and the child died ten hours later.

DERMATITIS EXFOLIATIVA *

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The name "dermatitis exfoliativa" may be given to any inflammatory disease of the skin which has for its most prominent features, inflammation and exfoliation of the epidermis. There may be features, however, histologic, etiologic or otherwise, which can be used to advantage in designating some of the types. Brocq recognizes seven types of exfoliative dermatitis. It may not be necessary to make as many distinct divisions as this, since several of these types may have the same or similar etiologic factors and differ only in degree of severity; still, we must acknowledge that there are as many clinical types as he describes.

The case I am about to report is evidently related to the more frequently seen cases of erythema scarlatiniform. Still I think that it would be a mistake to consider them identical.

The type known as "dermatitis exfoliativa neonatorum" or Ritter's disease, is a distinct type, and is generally conceded to be due to an infection at or near the time of birth.

The distinct type described by Hebra as "pityriasis rubra" is generally considered a fatal disease, but from time to time we have reports of recoveries of cases in all respects resembling this type, with the exception that they recover. There seems to me no adequate reason why they should be put in a different class. Frank Woodbury,[1] reports two cases, which he considers identical as examples of this disease. One of the patients died and the other recovered.

We have many other diseases which tend to a fatal termination in the severe cases, but in the milder cases of the same kind the patients recover. Why should we not consider this disease capable of the same variation and conclude that, while many patients die, others recover?

REPORT OF CASE

Patient.—B. K., a girl, 8½ years old at the time of first appearance of this skin disease, in April, 1907; her family history was negative. Her father, mother and two sisters are healthy. The cutaneous history of the family is negative. The patient had been healthy up to the time this disease made its appearance. Her skin was fair, hair inclined slightly to red, temperament nervous in mild degree, rather slender and of medium height for her age. She lived with her parents on a farm, where sanitary conditions are supposed to be good.

Present Illness.—The disease made its appearance as spots of reddened, rough skin, inclined to scale. These spots ranged from the size of a split pea to that of a silver dime; some were circular, while others were irregular in shape. The distribution was general over the body and extremities. At one or two places several of these lesions coalesced, forming irregular patches. Desquamation was in small scales. There must have been decided itching, as the parents say the child scratched until the blood flowed. Even while asleep, she scratched, which is indicative of severe itching. Her appetite was irregular and health not up to par. The parents of the child supposed this to be a case of multiple ringworm of the body, and it was treated as such. No physician was called at that time. In August, 1907, she had typhoid fever. This ran a reasonably mild course, the temperature at its highest being about 103 F. While the fever was present the skin disease disappeared completely, just as we see sometimes in psoriasis. When she recovered from the typhoid fever about September 15 the skin lesions returned, apparently about as they were before the typhoid made its appearance. They were the same red, slightly scaling spots as at first. The lesions were more numerous on the thighs than in other localities, but they were quite general in their distribution. This condition continued all through the winter, and in the spring of 1908 the family physician was called in to see the case. He considered it a case of disseminated ringworm and treated it accordingly for the next six months. There was no permanent improvement, but an increase in size of the lesions with more scale formation.

Examination.—When I first saw the case, Nov. 20, 1908, there were only a few of the smaller scale lesions present, and these were scattered about over the trunk and extremities without definite grouping. The larger ones had grown in size, ranging from 1½ to 3 inches in diameter, and were circular or oval in outline, not noticeably elevated above the surrounding skin, and had an erythematous base with thin papery scales covering the surface. At two or three places, several of these lesions had coalesced and formed irregular patches, but most of them were still discrete and were scattered promiscuously with the thickest distribution on the thighs. The distribution was about equal over the flexor and extensor surfaces. The lesions were sharply marginate.

Course of Disease.—My first impression was that I had an atypical psoriasis to deal with. An ointment was given, containing small quantities of salicylic acid and resorcin, in addition to internal treatment, and the patient was requested to return three weeks later. Promptly in three weeks the patient was brought to see me again. The change in these three weeks was great. Instead of scattering lesions, the entire skin was involved. I was informed that this involvement came, not by formation of new patches, but by extension of those present before. The whole process took on a more active appearance; the skin became brighter red and somewhat thickened. The process was extending up over the face and scalp, where it had not appeared before. The worst of the inflammation, however, all through the disease, was on the thighs and trunk. The face and scalp suffered least. This extension was accompanied by chilly sensations and fever. This began about December 1. The temperature was usually not high, but for the next two months it seemed to be always somewhat elevated, ranging from 99 to 103. There was no particular time for the increase in temperature, but the high points were just as likely to be in the early morning as late in the day. The discomfort of the patient, due to chilling, was quite marked, especially when circulating air came in contact with the denuded surfaces. Desquamation soon followed the extension of the inflammation. This desquamation left large patches of raw, oozing, sensitive skin. This was so general that the underclothes became at times saturated with the serous fluid. The patient did not complain of itching, but of a burning sensation, which she tried to relieve by rubbing. Desquamation occurred in small scales over the body and extremities. The palms and soles desquamated in large pieces. Toward the end of the disease the nails from the small toe on both feet desquamated also.. The other nails were rendered rough and ridged, but remained intact. The urine was examined at several different times and nothing abnormal was found. The heart, lungs, liver, spleen and all other abdominal and pelvic organs were normal as far as could be ascertained. No blood-count was made. The inflammatory process subsided gradually, the oozing grew less by degrees until it ceased altogether, the desquamation gradually disappeared along with the erythema and the skin became normal in appearance again. This point was reached about the end of April, 1909, about five and one-half months after I first saw the case. During the course of the disease the child had lost flesh until the bones became prominent. Now her appetite returned and the lost flesh was regained and more. A year from full recovery of this patient she remained perfectly well, has grown normally and has a skin as perfect as any child. In fact, there is no trace of the old trouble.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] The Journal A. M. A., 1899, xii, 81.

Treatment.—This consisted, first, of the application of soothing applications to relieve the disagreeable sensations; oily preparations seemed quite effective and agreeable to the patient; second, of tonic remedies internally. Various tonic remedies were used, as seemed indicated. Along with this I tried the efficacy of quinin. I realized that this case was different from those in which Mook[2] seemed to secure so much benefit, but gave it a trial. The benefit received from this treatment was not great, but nevertheless the child's parents claimed some improvement from it. I could not say that treatment accomplished anything in a specific way; it merely supported the patient's strength and palliated the suffering, while Nature produced a cure.

I do not believe that the causative factor in all cases of this type is the same. As in scarlatiniform erythema, which it resembles, the causes may be various. In the case just reported I thought at first that the general inflammation might be due to the local application of resorcin or salicylic acid. It is true that these were applied in mild strength and would have required a skin with an idiosyncrasy to have produced the inflammation.

The involvement of the entire skin, even where none of the ointment was used, made it apparent that this was not the cause. Also we see that the inflammation continued and grew worse after the local applications were withdrawn. The continuation of the inflammatory process for three months before beginning to abate would indicate the continuation of the cause for that length of time. That this cause was a toxic agent generated within the body I believe to be the rational explanation of the trouble.

ABSTRACT OF DISCUSSION

Dr. Frank C. Knowles, Philadelphia: In the *Journal for Cutaneous Diseases* for January, 1910, Dr. John T. Bowen, of Boston, published a paper in which he described seven cases of dermatitis exfoliativa, five ending fatally. In a previous paper, presented to the American Dermatological Association in 1902, he divided these cases into four types.. The first was the recurrent desquamative scarlatiniform dermatitis; this form might occur after the ingestion of drugs. The second was the dermatitis exfoliativa of Wilson; the third occurred as a sequel to psoriasis, eczema, lichen planus, etc., and followed the administration of certain drugs, such as belladonna, mercury and quinin: and the fourth form was the pityriasis rubra of Hebra. I have seen a few cases of dermatitis exfoliativa, and recently, since the first of the year, I have seen a generalized case which followed the administration of quinin, and another in which the eruption appeared following the local use of a mercurial ointment. In this case the application was followed by an immediate generalized exfoliation of the skin.

THE NERVOUS UNFIT*

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It may have been the original intention of our Creator that all human creatures should start the race of life with the same equipment of physical and functional strength, and many generations back in the history of the human family such may have been the case. The profession would be relieved of an ever-present problem if all of God's favored creatures acted and reacted alike to the responsibilities of life, to the daily fight for bread, to the wild chase after wealth, to the exacting demands of social responsibility with all its joys and sorrows, with all its pleasures and disappointments, with all its cares and comforts, with all its successes and all its failures.

That so many fall short in being able to stand the tension of life's responsibility and fail to fill their measure of work at the end, is due to one of the following:

1. The development of some local or general diseased condition that puts an end to their existence.
2. Some diseased condition, local or general, resulting not in death, but in incapacity.
3. Incapacity without local disease being clinically present. The third class may be divided into (a) those overtaken by mental incapacity, and (b) incapables—mentally sound.

It is to the latter class that I beg to direct attention. The cases of this incapacity, in mentally sound persons, without any local pathologic condition being clinically present, may vary in shades all the way from those very slightly affected to the "ne'er-do-weel" or the chronic bedridden invalid who has long since abandoned all effort except that of complaint.

Some of these cases seem to be of congenital origin; consanguinity or inebriety of parents, or the presence in the parents of other neuroses or psychoses, having all been charged with causal responsibility.

Our social and educational systems are perhaps answerable for many of the cases of acquired incapacity. The more strenuous and exacting the occupation, the greater and the less interrupted the tension on the nervous energies, the more numerous the victims. The mad, merciless mania for money; the pitiless competition for preferment, that our neighbors may not appear better than ourselves; the great and criminal lack of individual attention to students in educational institutions; the too early exactions made of the nervous to the detriment of the physical side of the growing child; the unpardonable sin of our ever recurring written examination with all its attendant evils, and many more might be mentioned as causes of its acquisition. Neither age nor race, neither sex nor social condition seems to afford immunity.

The good housewife seems to be the sufferer in the greatest number of instances, and well may she plead justification. The continual grind of domestic routine, the determination of what to have to eat and how to have it prepared, three times a day, every day in the year, and then to begin all over again for another year, and for a whole lifetime; the ever-present servant problem, with its yearly increasing magnitude, the vigils of maternity, the education and clothing of children, the daily combat with the butcher, the baker, ice-man, laundry-man *et id omne genus*, each demanding a larger proportion of her allowance, not to mention the exactions of her social environment, constitute a draft on her nerve energy that would bankrupt any but an inexhaustible supply.

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[2] Jour. Cutan. Dis., xxvi, 408.

* Read at the meeting of the Tennessee State Medical Association, at Memphis, April 13, 1910.

The financier who presides over the exchequer of a large enterprise, whose perplexing problems follow him home at night to disturb his domestic tranquillity and rob him of sleep, whose hasty meals are sandwiched in between the reading of the market quotations and telephone messages, etc., is often overtaken by an incapacity that seems unwarranted considering his age and apparent physical condition.

The minister, the ambitious student at college, the teacher, the professional man and especially the schoolgirl furnish large numbers of recruits to this ever-increasing army of incapables.

As paradoxical as it may seem, many cases are observed among the unfortunate unemployed children of wealth, who have never known the absorbing interest of earning their daily bread, who have so little to do that it is an effort to keep themselves physically fit, who are constantly begging for a potion for a night's sleep and who are strangers to that kind of slumber that has to be fought off till a task is done; whose organs of elimination from lack of physical activity are as foul as a surface sewer; whose digestive organs from early and long-continued over-indulgence have long since lost all that compensation that food brings to honest toil; whose principal occupation and whose greatest delight seems to be the contemplation of their own sensations. This class elicits our constant pity and commiseration.

These various groups of cases present a protean picture: Headache, backache, tender spine, tender nerve endings, gastric and intestinal disturbance, abdominal pain and tenderness, constipation, flatulency, occasional mucous diarrhea, disturbance and painful menstruation, palpitation, tachycardia, dyspnea, cold extremities, hyperesthetic and anesthetic areas, exaggerated reflexes, tire, inattention, inability to work, irritability, weakness, introspection, discouragement, hopelessness, chronic incapacity or invalidism—and all this while they are yet young and in apparently good physical condition.

The correct recognition and proper management of these cases is an ever-present and trying problem, and failure too often involves many fatal errors. The ready appreciation of the central origin of this incapacity is beset by two great stumbling-blocks:

1. These patients from constant introspection and analysis of their own symptoms assume to diagnose their own cases; it seems so simple; the stomach and intestines are upset and there is abdominal pain and tenderness, the trouble is abdominal; or there is constant pain in the back with menstrual disturbance; the trouble is located in the pelvis; or there is intermittent or constant headache that is made worse by much use of the eyes; hence there is certainly some error of vision; or perhaps there is tachycardia, palpitation and dyspnea, and heart disease is assumed. Having made a diagnosis, such patients at once elect to place themselves under the care of some professional man who devotes his activities to the treatment of the particular organ complained of, and then there develops the second stumbling block, which seems to have resulted from the following fact:

2. The limitation of our endeavors to any special line of professional activity seems to exaggerate and magnify that particular work in our minds until our perceptions are so restricted and our point of view so contracted that we are blind to all else, save those organs and tissues in which we are taking special interest. This seems to result from a one-sided development of our powers of observation, and is not limited to any special line of work.

Unhappily, the medical profession has not been able to rid itself of the mysticisms that still surround it in the eyes of the laity, and when a man makes a reputation on a certain line of work, the public assumes that he at once becomes an authority on all branches of the science—a pleasant misapprehension which is rarely corrected, but which is indulged in at times even by the man himself. Hence we see the doctor often falling into the same error as the patient and diagnosing disease in that complaining organ to which he is directing his special attention. That error is, however, as previously stated, not limited to any special line of work. These patients usually run the gamut of the profession and are successively fitted with beautiful glasses, have their stomachs washed out for a longer or shorter time, and then have a gastroenterostomy done; the appendix is next removed, and then are successively performed cholecystotomy, uterine and kidney suspension, perhaps removal of tubes and ovaries, dilatation or sewing up of cervix, removal of hemorrhoids, perhaps dilatation of an old stricture or massage of the seminal vesicles, and after all these procedures have been followed by brief improvement, temporarily justifying the idea that each succeeding new medical attendant has just really discovered the cause of all the suffering and is going to furnish the long-expected cure, the patient, if enough has been left to carry on his vital functions, then either becomes a victim of the infirmary habit, a chronic, neurotic incapable, or drifts into the ranks of some of dietetic or religious fanatics.

Is it not possible for us to draw a valuable lesson from our experience with these people? That the various diagnoses of so much local disease could not possibly be correct is beyond question; that improvement followed the treatment and assurance of relief in each instance may be true, yet a cure has not been effected. The hope and expectation of promised relief and the confident assurance of each and every new medical adviser that relief would follow each new treatment has conveyed to the confiding patient's mind the suggestion that that particular organ would be relieved, and it usually is for a longer or shorter interval. But is it not possible for us to approach the subject from a higher and broader point of view, and to secure more permanent relief?

1. It is essential to fix steadily before our own minds after thorough and painstaking examination the fact that the varied complaints of such patients cannot possibly be explained satisfactorily on the basis of local disease, but that they are probably due to a central cause acting through the nervous system, which, for want of a better name, might be designated "lack of nerve energy." Perfect frankness should be used in explaining to the patient that there is no disease present to account for the symptoms; that the complaints are due to a lack of nerve energy supplied to the tissues; that the tissues cannot discharge their functions without this nerve energy—that it is just as necessary to proper function as the circulation of the blood; that it is now proposed to institute a line of treatment that

will restore the proper amount and proper character of nerve energy; that restoration of function will result; that relief cannot come, however, without cooperation of the patient, in a new direction.

This explanation usually interests and seems to help the most fastidious and long-suffering. The greatest difficulty is experienced at the very outset, however, in convincing the patient, in the face of previous opinions, that there is no local disease present.

2. Restoration of function in any organ or tissue is impossible in the absence of the proper food-supply to that organ or tissue. Neurons and their multiple connections are no exception to this rule. An improvement in the food-supply of these patients is always of prime importance, and to accomplish this improvement is no easy task, as the belief in the presence of nervous indigestion has been indelibly impressed on the patients and they often consider themselves an authority on the subject of dietetics. Much help, however, may be derived from the constant suggestion that the trouble is entirely supradiaphragmatic and that the fear of food is unwarranted.

3. Chronic constipation is usually associated with the intestinal indigestion; mucous colitis is common, much abdominal pain and tenderness not infrequent, contributing an auto-infection from this canal that may not be an inconsiderable secondary etiologic factor; hence laxatives are continually called for, and may form a part of the daily regime.

4. Nothing is more important, impressive and suggestive than to have the doctor write out a program to occupy every hour of the patient's time, day and night, including amount, character and frequency of food, time, character and duration of baths, amount and time of isolated rest, hours in bed, amount of recreation and company, and an accurate instruction as to medicine, if any. In this way vicious habits of life may be corrected incidentally without friction, and the importance of the treatment impressed. Some of these patients are at times able to accomplish a considerable amount of work if their energies at other times are properly conserved. At times the only treatment that will be necessary at all will consist in temporary suspension of work, at other times change of occupation is the price of health and happiness.

5. In the effort to secure sleep many fall victims to drug addiction, an unfortunate complication always to be looked for, and a result to be carefully avoided. It will be difficult to avoid the occasional use of hypnotics; sleep, however, may be effectively secured by other and less dangerous means, to be mentioned later. The procuring of sleep by the regular use of narcotics is criminal.

6. The use of the cold bath in the treatment of these neurotic patients is an indispensible therapeutic agent; commence at first with a cold morning sponge, followed by a brisk rub, to be supplanted later by the cold spinal douche and then the cold plunge, effect is observed in procuring sleep, improved digestion, restored vascular, nutritional and metabolic equilibrium that is at times astonishing.

7. It becomes at once apparent, as already pointed out, that these patients are peculiarly susceptible to suggestion; otherwise the temporary improvement, under so many different lines of treatment, for different complaints, would not have been obtained. This temporary relief came from suggestion of relief directed to that individual complaint. Now with local disease out of the mind of the doctor and out of the mind of the patient, and the central idea of the trouble substituted therefor in the minds of both, is it not possible to substitute a conscious intentional and wholesale for the present unconscious and unintentional retail method of conveying the suggestion?

For the carrying out of this idea there are several prerequisites: the doctor himself must be of a tactful and magnetic disposition and possessed of a patience that would excite the envy of Job. The hearty cooperation of the members of the family is of importance; all of them are to be instructed to remark occasionally the patient's improved condition. Unkind criticism or reflection on former medical attendants is fatal to the effort. Patients must be prohibited from discussing their complaints with anybody but the doctor.

Electricity and vibration, aside from any inherent therapeutic merit, are perhaps the best vehicles in which to administer the suggestion. Either or both may be used alternately. A certain hour, on a certain day, must be selected and the engagement scrupulously observed. Negligence, indifference or inattention is at once followed by loss of cooperation. The patient's clothing should be removed and the surface of the body carefully gone over either with the electrode or the vibrator and as tender points are reached they should be gone over again carefully with the constant, confident, yet quiet assurance that the treatment will remove the tender spots. The greater the elaborateness, the more obscure the complexity of detail, the greater the amount of surface covered, the more forceful and lasting the suggestion. During the treatment and immediately thereafter the patient should be assured that it is always followed by more quiet and refreshing sleep, that digestion and appetite are constantly invigorated and the tender spots relieved, and that general comfort will follow until the next visit. On the next and all succeeding visits, before the patient has had an opportunity to begin the usual recital of discomforts, the doctor should be careful to remark casually on the improved appearance and better color, and at once to ask tactfully and carefully after each and all specific complaints, with the inquiry if they are not better. Optimistic suggestive inquiry, with confident reassurance, should characterize each and every interview.

I beg that this paper may be construed as a plea for a broader and deeper conception of the complaints of this class of patients, a conception which will carry the diagnostician beyond the consideration of local expression as an evidence of local disease, into the realm of mental control, where the seat of injury is often found in the loosening of that tie which should normally bind the higher subliminal self to functional activities.

Patients of this class are certainly entitled to every means of relief that can be afforded—dietetic, medical, surgical and hygienic; but shall we stop there, abandoning that wide field of psychotherapy, now holding such promise of development for the future?

All therapeutic measures belong to the medical profession, and failure on the part of the physician to add mental therapeutics to other treatment is, in my opinion, largely responsible for the ever-increasing numbers of devotees to those false religions whose tenets are neither scientific nor Christian, but who adroitly swell their ranks and promulgate their false doctrines by practice of this principle, so long well known, yet only recently being seriously put on a sane and healthy basis for the use of every practitioner.

PRESCRIBING OF LENSES FOR CLOSE WORK *

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It will be possible to discuss only certain phases of this broad subject. Some procedures do not seem to be sufficiently well known, and require elucidation and emphasis in order to secure their more general adoption by those who prescribe lenses for the eyes. Before considering the prescribing of lenses for close work, the muscle conditions and static refraction for distance should be correctly determined. The latter is usually impossible without the proper use of cycloplegics, except in certain cases of myopia and in some people past middle life whose accommodation is weak or easily controlled. Sometimes the examiner must be satisfied with partial corrections, because fatigued yet determined, hypertrophied, habit-controlled, spasmodically contracting muscles are by no means limited to the young, but are often found in the eyes of the middle-aged with their more inelastic resisting lenses.

There are many young persons who suffer more or less distress, e. g., blurring, eye-ache and even headache after continued close work who experience no difficulty in the ordinary use of their eyes. In such cases it is a common custom to advise the constant use of lenses; during our first years in practice we made it a rule to do so. If there is no fixed vertical muscle imbalance, however, and no astigmatism or only a slight degree, less than .38 D., with weak spheres of nearly similar strength for each eye, the proper distant correction should be worn only for close work if all the symptoms are thereby relieved. In many patients it is more satisfactory to advise constant use of the lenses for the first few weeks or months until unnecessary ciliary contraction and consequent dimmed distant vision has more or less disappeared, when, if no symptoms remain, the patient may lay aside the lenses except for near work. Patients are often compelled by their advisor's orders to undergo the discomfort of constant use of lenses, although many, after a period of rest, disobey instructions, lay aside their lenses except for close work, discovering that they are comfortable without them. Such patients may lose confidence, and often go one step too far, discarding the lenses altogether for a variable time without discomfort, although possibly injuring the eyes by the added accommodative strain. It must be admitted that certain of these patients are not comfortable without constant use of lenses and it might be argued that in some the ametropia, e. g., astigmatism, is more likely to increase, but this chiefly depends on the individual and his work and can be known only by a fair trial. The oculist should not as a matter of routine advise such patients to wear lenses constantly. Of course, if there is considerable astigmatism or heterophoria present the patient may harm his eyes by not doing so and is not so likely to find comfort in their use for close work only. The eyes of the great majority of young people are hypermetropic, requiring the use of the ciliary muscles for clear distant vision, but such eyes, unless very hypermetropic, do not necessarily suffer distress or impairment of function in doing distant work; it is nearly always the added strain in near work that distresses and injures, especially if there is impairment of the general nervous system or the health.

The use of lenses in close work is often made necessary independent of the condition of the eyes for the distance. This is true when there is any impairment of the general health and vigor weakening the action of the ciliary muscle or influence of the third nerve, e. g., in conditions following various infectious fevers, especially after typhoid and diphtheria, and in certain toxemias and anemias as well as in cases of subnormal accommodation, or ciliary asthenia from other causes. In such cases pure hypermetropia of low degree might require lenses for only close work, while patients with considerable astigmatism or those who require prisms, especially one base up or down, usually should have bifocals. Lenses could be tried for near work, but, since these would not permit good distant vision, bifocals would be particularly helpful, especially in certain vocations, for instance, in that of a student. As the ciliary asthenia disappears the segments may be made weaker or dispensed with, leaving the proper distant lenses for distant and close work. In these cases there is a temptation to give too strong lenses for near work so as to help the patient as much as possible, but this discourages return of function in the weak muscle, although, according to Hess,[1] exercise can have no effect on the maximum of lens convexity. Duane[2] believes that exercise can increase the accommodation when weakened. Such patients should be requested to hold the reading, etc., as far away from the eyes as possible and to give the eyes frequent short rests from close work. Attention to general treatment and hygiene is very important, and posture, position, intensity of lights, etc., should not be neglected.

In myopia of about the same degree in each eye, over .50 D. and less than 2.00 D. or 3.00 D., and with little or no astigmatism, it is often best to have the patient wear the lenses only for the distance and lay them aside in close work unless he holds objects too close, necessitating too much strain on the muscles of convergence. In quite young persons it is better, if possible, to have the patients wear the lenses constantly in order to develop the accommodation. In myopia over 2.00 D. or 3.00 D. the use of bifocals is often advisable, great care being taken not to add too strong a segment. Space forbids a full discussion of anisometropia; but in cases in which a patient does not enjoy binocular vision or uses one eye for distant vision, the other for near, attempts to equalize them or adapt both to one distance will be fruitless and contrary to the best interests of the patient.

The far and near point giving a fair idea of the amplitude of accommodation should be found. In testing for close work, not only the best but also the nearest and farthest distances at which the print can be comfortably read with lenses should be determined. This gives the ordinary accommodative range. In difficult cases, especially in those who have previously complained of their lenses in close work, the accommodative range in each eye separately should be carefully ascertained. In testing the accommodation by means of test-types, the retinal image varies in size, depending on the distance of the test-type from the eyes. For accuracy this image should not vary in size and thus change the visual angle; therefore, ordinary tests with test-types or with lenses are inaccurate. I have found the punctumeter, a variety of Badal's optometer (Tscherning[3]) in which the retinal image remains the same size, convenient and sufficiently accurate, as by it the accommodation

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Hess, Carl: Modern Views on the Physiology and Pathology of Accommodation, The Journal A. M. A., July 26, 1907, xlix, 230.
2. Duane, Alexander: The Accommodation and Donders' Curve and the Need of Revising Our Ideas Regarding Them, The Journal A. M. A., June 19, 1909, lii, 1993.
3. Tscherning: Physiologic Optics, pp. 83 and 84.

may be quickly measured. Last year before this Section Duane[2] described a disc and method for testing the accommodation.

All these tests should be made with the patient's back to the source of light, thus avoiding contraction of the pupils sufficient to affect the result. Any of these tests may be misleading if the muscles have been fatigued by a previous long examination, especially if by fogging or other methods the patient has been induced to relax wholly or partially his accommodation. On the other hand, such tests made in the beginning of the examination, during or after it, when a spasmodic effort is made by the strained eyes of the anxious patient, may demonstrate greater accommodation than is ordinarily present. Accommodation in some people, especially in neurasthenics, in certain hysterical persons and in those with marked convergence defects, is very variable, the ciliary muscles easily becoming exhausted, so that it is instructive to make these tests early in the examination as well as after the eyes are tired. This exhaustion of the accommodative apparatus partially explains the blurring and other difficulties certain persons experience after continued close work which they do not notice in using the eyes for a short time. When the blurring begins they bring their close work nearer, securing magnification, sacrificing clearness but forcing additional work on their already exhausted ciliary and adducting muscles.

By the tests described above the amplitude of accommodation on the two sides may be shown to be quite unlike, the result of various diseases, especially those of the nervous system, usually weakening, paresis or paralysis of accommodation and possibly, in rare instances, spasm of accommodation. For close work it is occasionally necessary to place a stronger lens before the eye with the weaker accommodation. Commonly the difference between the lenses will be from one-third to two-thirds the difference of accommodation, or in young persons even less than one-third (Jackson[4]). It is very helpful to know that there is no accommodative power in some old people with not very clear media and small pupils. The vision may be so blurred that they cannot select the proper amount to add to their distance correction for near work, e. g., such a patient may not be able to chose between a +2.00 D.S. or +3.00 D.S. added to the distant correction. In these cases the equivalent in diopters should be added, as for 33 cm. a +3.00 D.S. should be added to the distant correction. While the range of vision with lenses for close work should be found in order to help determine the best lens, as too strong lenses often limit the range too much, and while the amplitude of accommodation should be determined and will prove helpful, rules for prescribing applicable to every case cannot be made. Probably no one could constantly employ his full accommodative power, but it is impossible to say whether a particular patient can use two-thirds or one-half of his power, as asserted by some writers. Some persons can use three-fourths of their accommodative power more constantly and easily than others can one-fourth. Fixed rules, a given distance or method are not applicable to all cases.

After having determined the ametropia for the distance, and, in special cases, the amplitude of accommodation, the distance which the patient prefers for close work should be ascertained. Next he should be placed with back to source of light and a test chart given to him. He should not be permitted to face the source of light, as this causes contraction of the pupils, partly preventing diffusion circles, thus doing away with the necessity for lenses and making it difficult or impossible to find the correct strength for ordinary conditions. The test-card should not be in direct sunlight, although it should be in good daylight without the patient's shadow on the card. Good artificial light from a source behind the patient serves well, and, as this is the kind of light commonly complained of, its use is often advantageous. He should be directed to look at test-letters of about the size of ordinary print, e. g., .75 D. or Jaeger 4. If the patient's vision is poor he should be directed to look at larger letters. If the test is made with very small letters the patient is likely to hold such letters a little closer than he would ordinary-sized letters, sacrificing ease and clearness to secure greater magnification. A sheet of ordinary music should be used when lenses are desired for reading music. If care is taken that the lenses are properly centered in the trial frame a seamstress may suggest something helpful as to distance if required to thread a needle and possibly to make a few stitches.

The range for the test-object should next be found; first, how far away the letters can be comfortably seen; next how close they can be easily read, and last the best distance at which they can be seen. The patient should be told to confine his attention to the distance for the lenses being tried, for if this distance is unsatisfactory it may be made right by other lenses and that, therefore, he should totally put aside his preconceived ideas of the proper distance for his work.

Persons in various vocations prefer different distances. A bookkeeper, type-setter, laundress, painter, carpenter, pianist, violinist or one who works at a flat-top desk rarely likes lenses which necessitate his coming close to his work, e. g., by leaning forward over books or desk. The lenses for the ordinary reading distance should first be found which will greatly aid in determining the proper lenses for particular distances. We have described our ideas about the proper distance for close work, especially as dictated by heterophoria and convergence tests, and the necessity for muscle exercises and prisms in these conditions in former papers.[5] These papers emphasized the point that, whenever lenses are prescribed, the intimate relation between accommodation and convergence is changed, requiring readjustment; further, that a patient with a strong desire for fusion, or single vision, may have marked ability to converge for a short time, or, for that matter, to rotate the eyes in any direction, just as a hypermetrope can accommodate, but that he is likely to become tired by such forced convergence, just as a hypermetrope becomes tired by forced accommodation, if the eyes must, in order to secure single vision, be rotated considerably from what may be termed their position of rest for any particular distance.

The examiner, in order to prevent early change of lenses and to thus lessen the patient's future expense, is often tempted to prescribe too strong lenses for close work. These limit the patient's range for near work, and, while lessening the accommodative stimulation to convergence, add to the convergence strain. For ordinary patients with good convergence power, for reading and sewing it is usually well to prescribe lenses for about 37 cm. This is a little too close for sewing on a machine or ironing, but is a good average distance. This distance is varied, depending on the vocation, desires of the individual patient, conditions of the extraocular muscles and convergence power and also dependent on whether there is binocular single vision. Unless the vocation demands otherwise, a one-eyed patient will usually prefer a strong lens if convex, and those with marked subnormal vision will also usually accept a strong lens, preferring magnification to clearness, range, etc.

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[4] Jackson: Ann. Ophth., July, 1907.

[5] Stevenson, M. D.: Ophth. Rec., July, 1904, and February, 1907; Practical Importance of Hyperphoria in Prescribing Lenses for Use at Particular Distances and in Different Directions, THE JOURNAL A. M. A., July 17, 1909, liii, 203.

As in tests for the amplitude of accommodation, it is sometimes necessary to make separate and repeated tests for the best lens for close work, since the ciliary muscle, if exhausted by the previous examination, will require too strong a lens for ordinary use; that is, a lens which at the time of examination gives a reading distance of 37 cm. may in the ordinary condition of the eyes have a reading distance of considerably less. On the other hand, there might be a spasm of the ciliary muscle, and on continued use the lens would be too weak.

Accommodation is strongest in the young, not in infants, and gradually diminishes afterward until abolished. The age when special assistance to the eyes in close work because of weakened accommodation is first required varies, but much depends on the general health and vitality, the vocation of the patient, the amount and nature of ametropia or heterophoria present and the size of the pupils. Accommodation is the first important function to weaken and does so while the ordinary muscles of the body are growing and developing, possibly suggesting its biologically difficult and recent acquirement, especially as it is imperfectly developed in the savage and in the lower animals. In these times of overworked eyes, as in reading, embroidering, engraving, etc., special help for the accommodation is frequently demanded, i. e., a stronger lens if convex, weaker if concave, than the proper distance correction is required. Many patients over 30 or 35 complain of the use of their eyes only in close work. They are usually given their full or nearly full distant correction, to wear constantly. Many of these with a low degree of ametropia, especially with only a little astigmatism, with good extraocular muscles, will get greater relief and avoid the nuisance of wearing lenses constantly if a somewhat stronger convex or weaker concave lens than is required for the distance is prescribed for close work only.

Judgment and great care must be exercised in these cases. If there is much astigmatism or if a prism, especially a vertical prism, is required it may be better to prescribe only the full correction and as accommodation diminishes and this correction fails to satisfy in close work add a segment or give a separate stronger pair of lenses for near. A + .50 D. or + .75 D. segment added to the distant lenses often greatly aids the patient. It should not be forgotten that even if the ametropia for the distance is fully corrected in close work the ciliary muscle is compelled to make continuous effort, for instance, 3.00 D. at 33.3 cm. The time is probably coming when many more young people than at present will wear bifocal lenses, giving clear and easy vision at the distance and special aid in near work.

When patients past middle life complain only in doing close work and the eyes are normal or nearly so for the distance, lenses may be prescribed only for the former. In these cases, however, bifocals should often be prescribed, the patient being requested to wear them only for close work. Even a weak lens correcting the ametropia is preferable to a plane lens, and if a large segment with its upper edge just below the lower margin of the pupil is given in frames with good reading angle the patient will find it more convenient in doing his close work, not having to remove his lenses to see at the distance. The main objection to bifocals, viz., that the patient cannot see easily when walking about is removed, as the lenses are used only for close work. For patients who object to this use of a bifocal or for those whose vocation demands a whole lens, e. g., certain dentists or bookkeepers, a single lens is prescribed. Some prefer to use half or clerical-shaped lenses.

When there are symptoms of asthenopia, e. g., headaches, blepharitis, etc., due to a considerable degree of ametropia, two pairs or bifocals should be prescribed. Two pairs are better for those engaged in certain vocations, whose eyes must be directed through every part of the lens, as for dentists, bookkeepers, type-setters, sign-painters, etc., but they are inconvenient in many well-known ways. Two pairs require more care and must be frequently changed, especially difficult as it necessitates the use of both hands, a case, and some place to lay one pair of lenses.

To avoid the use of two pairs several substitutes have been used. Grab-fronts, whole or half lenses, grab-backs, whole or half lenses, are very serviceable in some cases. Half grab-backs serve like a bifocal both near and distant vision, but for those who wish a whole lens and desire to make quick changes the whole grab-back is useful. The grab-backs are not convenient for those who are often required to look upward, as salesmen in stores, painters or carpenters, for the grab-back then slips backward against the eyes; or for those who, like skirt-fitters, are often required to stoop, since the lenses are then liable to drop out from behind the spectacle frames. Grab-fronts hang on better than grab-backs, but are more difficult to adjust; and both are objectionable because of appearance, can be used only with spectacles, require careful and frequent adjustment and the rubbing together of the lenses scratches and mars their surfaces.

The most generally used substitute for two pairs is the bifocal, and, while the patient is usually disappointed in their use during the first few weeks, he usually likes them after becoming accustomed to the necessary blur of distant objects seen through the lower portion of the lens in looking downward and to the doubling of objects seen through the upper margin of the segment. The difficulty with this upper margin is much less in kryptoks and so-called invisible bifocals than in the older varieties. The patient should be given to understand that at first he must be patient with bifocals. In many ways they approach the ideal for two distances without any change of lenses. The segments are easily and cheaply changed. They may be prescribed either in spectacle or nose glass frames and with any degree of durability and elegance. For temporary use a detachable segment suggested by H. G. Huffman of Youngstown, in which the segments may be quickly clamped on the distant lenses by merely pressing them into a special case, may be employed. This form of bifocal may also prove useful in making a prolonged trial of double lenses. They are superior to other bifocals in that the patient may discard them when not doing close work, may have two pairs of them for different distances, may place one pair over regular bifocals and in that they can be easily decentered.

With bifocals the great difficulty complained of is in seeing downward at a distance—seeing the sidewalk, curb, etc., when walking. We formerly made the common error of trying partly to avoid this trouble by prescribing too small segments, by giving frames so that the segments were placed too far below the pupils. It did help the patient when walking about, but made near work more difficult and tiresome. The very small sizes require too much adjustment of objects looked at, give too small a field. Very large segments are required only for those who must move their eyes much in their work. They can scarcely be made large enough for bookkeepers and some dentists. Small segments for distant vision may be placed on the uppermost portion of the lens, the remaining large part being for close work. If the segment is placed too low the eye is compelled to look downward to such a degree as to tire the external ocular muscles. A false lens astigmatism is produced by looking through the strong segments at such an angle; also the effect of a stronger sphere results so that the patient is compelled to hold his work closer than was intended by the prescriber. This tires the eyes because of the increased amount of convergence required. Experience has taught us that the segment should be only very slightly below the pupil, especially in those who wear the bifocal only in close work, and that all lenses for near work, especially bifocals, should have the top tilted considerably farther away from the face than the bottom—a large reading angle.

Toric lenses give a better reading angle in the segment than ordinary lenses. With a good reading angle the eyes then look more directly through the lenses with less false lens astigmatism and with more nearly the spherical effect desired. Ordinarily the patient will soon accustom himself to walk about with segments high up. If spectacles are worn, for a time the frames can be pulled forward and down on the nose while the patient is walking. With nose-glasses, in close work, the reading angle should often be increased by tilting outward the top of the lenses. When a different prism is required in the reading lens from that in the distant lens it can be made in bifocals, but is often better employed in two pair. Last year before this Section one of us described a method by which hyperphoria in various planes for near work can be examined, and pointed out that, since it sometimes varies in different planes, it is necessary to prescribe different prisms for near than for the distance, also that such patients as well as anisometropic patients must learn how best to hold the head and eyes, that for such there is only one best position or plane in which the object should be held.

Everett Building.

ABSTRACT OF DISCUSSION

Dr. A. G. Bennett, Buffalo: I wish to take exception to one point in Dr. Stevenson's paper, and that is the statement that it is a waste of labor to try to make the patient with anisometropia use both eyes. I have had several instances of patients with one eye myopic and the other hyperopic or emmetropic using the emmetropic eye for distance and the myopic eye for reading. Some years ago I followed the advice now given by Dr. Stevenson and allowed the patient to use one eye for reading and the other for distance. But in the case of a young woman who came to me some years ago with a difference of 3D., I thought I would try to make her use both eyes. She had entire loss of accommodation in both eyes—the right eye from lack of use and the left eye *from myopia*, also from lack of use. So that she had a subnormal accommodation of at least 3D. I gave that patient a pair of hook-ons of 3D. to use before both eyes when reading or doing close work, with full correction for distance. Then I gave her some weak physostigmin (eserin) to use at night. She used the physostigmin and glasses three or four weeks. I was then able to reduce the hook-ons a half diopter. I continued that method of decreasing the strength of the hook-ons until in nine months she had full accommodative power. I have carried out this plan a good many times, and always with success, being able in every case to give them full accommodation.

Dr. A. E. Bulson, Jr., Fort Wayne: The accommodative power is influenced by so many factors that no hard and fast rules can be observed in the prescribing of lenses for close work. The health, temperament, vocation, habits, and the amount and kind of error of refraction may affect the muscular tone, and these factors may be inconstant. They must, however, be taken into consideration in the management of any case in which there is discomfort in using the eyes for close work. Some persons are thoroughly uncomfortable when wearing the full correction for close work, but derive the greatest benefit from a quarter, a half, or two-thirds of the correction. Other persons secure the greatest relief when wearing the full correction. A small percentage of patients will derive no lasting benefit from any correction, owing to inconstancy of muscular tone. Many cases, and the last class in particular, require treatment or a regulation of the habits or the conditions under which the eyes are used. I do not believe that in non-presbyopic cases we are ever justified in giving more than the full correction of the static refraction, for in such cases there is an urgent demand for a correction of the abnormality by means directed to the underlying cause. The lowered tone of the accommodative power requires something more than the effect of lenses, which do not aid in restoring the impaired function. The patients are generally, if not always, benefited by rest, coupled with whatever treatment may be indicated to aid in the restoration of normal accommodative function. The emmetropic eye should possess the necessary accommodative power for near work, as otherwise the eye is suffering from an impairment of function which calls for something more than lenses. The ametropic eye may possess all or more than emmetropic accommodative power, and the determination of the lenses required resolves itself into the question of an estimation of the amount of surplus accommodative power under average conditions, which, taken from the total refractive error, indicates with a fair degree of certainty the lenses which should be prescribed. Theoretically, a correction of the full amount of ametropia is indicated, but practically this does not work out satisfactorily in all cases. Here again we must take into consideration other factors which must be considered, not by correction with lenses, but by suitable treatment. We are also confronted with the effects of varying uses to which the eye is put. The person who works satisfactorily at one occupation with certain lenses may be very uncomfortable when the occupation changes. The person doing only an average amount of eye work very comfortably with a certain correction may be uncomfortable when doing something requiring more use of the accommodation. Therefore each case must be studied on its merits before it is altogether satisfactorily settled. The ophthalmologist who secures the best results will be the one who looks beyond the findings obtained from objective and subjective tests of the refraction before prescribing lenses.

Dr. Allen Greenwood, Boston: I want to emphasize what Dr. Bulson has said, that each case of refraction must be treated by itself. I also want to suggest a procedure which I have followed with great advantage, and that is, in young people who have a fair amount of esophoria, it is a good rule for a time to require glasses for near reading. The patient with exophoria very seldom will wear glasses for near. I also want to speak about anisometropia. I find that young people with the symptom uncorrected may be made absolutely comfortable with the proper correction for each eye.

Dr. S. L. Ledbetter, Birmingham, Ala.: Dr. Stevenson speaks of the difficulty in getting accustomed to bifocals on account of the blur that occurs in passing from the upper to the lower lens. There is a distinct blur, depending on the strength of the lower lens, for practically ⅛ inch in which nothing is seen. This is obviated by a little device which some of you may have heard of. It was suggested to me by a manufacturing optician. The usual bifocal segment is placed with the apex up. When the ray of light comes to pass through the segment it is deflected and gives more the appearance of coming from high up. Whereas, if you put the base up, when you reach the point of disappearance of the image, it produces a deflection so that the object is seen through the lower segment before distinct vision becomes lost through the upper, and you pass immediately from the upper to the lower segment, apparently seeing the object below before it has been lost from above. Mechanically, it does not look very bad, and it does away with the blurring. It can be made in the kryptok in the same way.

Dr. G. C. Savage, Nashville: There are two points not yet touched on in the discussion that are of vital importance. If you have cases of anisometropia, you can correct the error in each eye, but if you fail to tell the patients that they must look through the centers of the lenses, then they will get into trouble. To illustrate: Suppose I have a case of hyperopia of 2 D. in the right and 5 D. in the left eye. That is a difference of 3 D. Looking through the centers of the lenses there is no prismatic effect anywhere, but let the patient look one-fifth of an inch above the centers and he gets 3 degrees of prismatic effect vertically in the left eye; likewise, if he looks below one-fifth of an inch, he gets three degrees of prismatic effect vertically for that eye. The muscles cannot bear that sort of a displacement, and if the patient cannot look through the center of the lenses, he should be given the same strength lens as that given the better eye.

The other point is this: If you have a young person who has weak accommodation, it is the easiest sort of thing to tell it. You do not tell it in a haphazard sort of way; but place the patient behind the phorometer, and if he has orthophoria for distance and esophoria for near, that speaks for weakness of the ciliary muscles, and that weakness can be cured by gymnastic exercises. Instead of giving such a patient presbyopic lenses, I put him on exercise by means of concave spheres. I tell him what I want to accomplish. "The ciliary muscles require too much nerve force to do the focusing, and that produces a disposition to cross, and that gives a pull on the part of the externi to keep the eyes from crossing. You exercise these little focusing muscles as I tell you and thus will gain power and you will be relieved of the disposition to cross." When the concave spheres are put on, the patient should be 8 or 10 feet from the letter or figure on the wall to be looked at, and he should be told to raise and lower the concave lenses in front of his eyes rhythmically, like the tick of the old-time clock, at first for about two minutes, and add a half minute to each exercise until he gets up to ten minutes, and then for weeks or months exercise these ciliary muscles ten minutes just before retiring, so that the blood thus invited will build them up and make the muscles strong. These spheres should be —.75 D.

Dr. Joseph S. Lichtenberg, Kansas City: There is still one point that should be taken into consideration in fitting glasses for near, and that is the character of the light used. In our present-day civilization stenographers, bookkeepers and others are compelled to work by artificial light, principally incandescent electric or gas lights, and in this light there seems to be an irritant quality, possibly due to ultra-spectroscopic rays. My experience is that stronger glasses are necessary. Also under certain circumstances a certain tint can be given to the glasses, as amber, or amethyst tinted glasses, as suggested by Dr. Fox, or possibly those so-called ray filtering glasses, made by the German chemists.

Dr. Mark D. Stevenson, Akron, O.: Last year, before this section, I emphasized the importance of the anisometropic patient looking through the center of his lenses as much as possible; that he should turn the head, using the neck muscles instead of the external eye muscles, and that he should hold the reading matter as nearly on the proper plane—up or down—as he could. As stated, a full discussion of anisometropia was impossible in this paper. Usually the patient using one eye for distance the other for near, especially if there is a great difference between the strengths of the two eyes, will not appreciate attempts to equalize the eyes or adapt both to one distance. Of course, painstaking care and great patience on the part of both physician and patient will be occasionally rewarded by a brilliant result. As pointed out in the paper, I think the proper use of artificial illumination in testing for near work is very important, since it is commonly used by many patients. In asthenic conditions of the muscles the prime factor in treatment no doubt depends on the improvement of the local and general hygienic conditions and health—proper rest, exercise, etc.—but in many busy people there is a period before recovery when the eyes must be given more than ordinary assistance by lenses. This is not only demanded by the patient's necessity to use the eyes comfortably, but is often important temporarily in preventing harm to the eyes. As the whole is greater than the part, the examiner must not forget that he is above all else a physician, and that these cases require not merely local lens or other treatment, but, in addition and above all, his best skill in diagnosing and treating the underlying general cause or causes.

EDUCATIONAL WORK IN REDUCING INFANT MORTALITY

WILBUR C. PHILLIPS.
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NEW YORK

Step by step as we descend from the level of the extreme rich to that of the extreme poor, we find conditions increasing which militate against the lives of little ones. Where people are poorest, and where the scantiest means are found to combat evils which threaten, there invariably we find the darkest tenements, the narrowest and foulest streets, the lowest standards of living and the greatest ignorance. In consequence the death-rate among infants, as all persons know who work in these localities, is appalling. Especially in the summer, the babies literally die like flies. The fear of something terrible hangs like the sword of Damocles over the frightened, ignorant, and too often superstitious mother. Why does the baby die? The mother does not know. She knows only that her baby is vomiting and lying almost lifeless in their arms, and that at any moment it may follow where the others have gone. A timely word, telling her not to do the thing which makes her ignorance murderous, in many instances would save the baby. When the mothers begin to realize this their eagerness to learn, their hunger for instruction, is pitiful, more pitiful than physical hunger or its twin specter, undernourishment, stamped on the faces of so many, many women and children of our tenements.

This is the real tragedy of infant mortality—the unsatisfied desire of souls for knowledge, the permission of spiritual suffering and death.

To reduce infant mortality in its great and shocking totality, knowledge of infant-feeding, the hygiene of infants and all things pertaining to infancy must be placed first of all at the command of these poor mothers. The rich woman, the middle class woman, must also be taken into consideration, but the long red columns of infant deaths will not begin to shrink until the campaign deals effectively with those whose lack of knowledge is most pitiful and distressing.

Last year in Greater New York 15,977 infants less than 1 year of age died from causes which were largely preventable. No figures exist to show what percentage of these deaths occurred among the rich, middle class and poor respectively, but it is safe to say that a large majority, probably four-fifths, occurred among the people of the tenements. Some basis for this claim may be obtained from an investigation of Health Department records made by the New York Milk Committee in January, 1908. Three sections of the city were included—one section of twenty-eight blocks, comprising a fashionable residential district in the neighborhood of Fifth Avenue, Madison Avenue and Central Park; the second of five blocks comprising a middle-class residential district in the neighborhood of One Hundred and Thirty-fourth Street and Lenox Avenue; a third of three densely populated blocks comprising a typical tenement-house district bounded by Avenue A, East Seventy-fourth Street, First Avenue and East Seventy-second Street. In 1907 the estimated population of the three districts and the number of births recorded were as follows:

	Population.	Number of births recorded in 1907.
28 fashionable blocks............	7,561	37, or ½ per cent.
5 middle-class blocks...........	7,696	160, or 2 per cent.
3 tenement blocks...............	7,858	434, or 5½ per cent.

Thus we see that in the above areas containing approximately the same population, three times as many babies were reported born to poorer classes as to the middle classes and eleven times as many to the poorer classes as to the upper classes. These figures are undoubtedly influenced considerably by the fact that most wealthy women and many women of the middle classes, go out of the city for confinement or are confined in institutions not included in the districts above named.

A fair estimate of the ratio of births among the three classes would probably correspond with the figures for Paris, Berlin, Vienna and London, reported by Dr. Bertillion at the Congress of the International Statistical Institute of St. Petersburg in 1887, which are as follows:

PARIS

If the birth-rate of *rich* = 1, then *middle* = 1.5 and *poor* = 2.3

BERLIN

If the birth-rate of *rich* = 1, then *middle* = 1.9 and *poor* = 2.6

VIENNA

If the birth-rate of *rich* = 1, then *middle* = 1.7 and *poor* = 2.0

LONDON

If the birth-rate of *poor* = 1, then *middle* = 1.4 and *rich* = 1.9

It is safe to say that in the districts above mentionel, twice as many babies were born to the poorer classes as to the middle classes and four times as many to the poorer classes as to the upper classes. These figures, although not so sensational as the actual comparative birth-rates reported to the Health Department, nevertheless show a striking contrast.

Knowing that the greatest danger to infants exists at the time of greatest heat, the Milk Committee, at the suggestion of Dr. L. Emmett Holt, selected a period of fourteen days, of which the first seven comprised the hottest week of 1907. In this way not only the immediate but the after-effects of a period of excessive heat were observed—something that is rarely done. The average mean temperature of the first week from July 18 to July 24 was 78.6 degrees and of the second week from July 25 to July 31, 76.4 degrees. In the three tenement-house blocks sixteen deaths, or 4 per cent. of the total number of infants known to have been born during the year died during the two weeks—nine during the first week and seven during the second. Had a similar death-rate prevailed throughout the rest of the year the mortality would have been 100 per cent. In the four middle class blocks and in the twenty-eight wealthy residential blocks of approximately the same population no deaths were recorded.

These facts tell their own story. The probable absence for the summer of most of the wealthy mothers and many of the middle-class mothers cannot be considered, as the ability to leave a hot city and thus avoid a principal cause of infant death—like the ability to employ infant specialists, trained nurses, etc.—is a purely economic advantage. Light, air, sanitary surroundings and proper nourishment, are all factors in the reduction of infant mortality. The lack of the means to purchase these commodities spells misery, disability and death.

VALUE AND KINDS OF INSTRUCTION

Because of the facts already mentioned, instruction and educational work, up to the present time, has been largely confined to mothers in the lower strata of society. This educational work has been of three kinds: (1) home instruction by nurses; (2) class instruction by doctors; (3) combined class and home instruction by doctors and nurses.

1. *Home Instruction by Nurses.*—The first educational campaign of house-to-house visiting in New York City was started by the New York Association for Improving the Condition of the Poor in the summer of 1907, when a small army of nurses, with headquarters at Junior Sea Breeze Hospital, were detailed to work in the Nineteenth ward, bounded by Thirty-ninth and Ninetieth streets between Fifth Avenue and the East River. These nurses visited mothers in their homes, instructed them in the care and feeding of their infants, and, as often as was necessary, revisited them and gave additional advice.

As a result of this work (for other reasons seem to be lacking), the deaths among children in the Nineteenth ward in 1907 was 222 against 254 in 1906, although the death-rate among infants and young children from diarrheal diseases throughout the summer was higher for the entire city in 1907 than in 1906.

Stimulated by the excellent results of this work, the New York Health Department in the summer of 1908 detailed a force of 83 nurses to do instructional work in the five boroughs in Greater New York. Each borough was divided into districts which were in charge of a chief medical inspector and a supervising nurse. Instruction was confined to the mothers of new-born babies whose births were reported to the Health Department. On being notified of these births the nurses visited the homes and, if the case was not already in the hands of the family physician or some competent person, instructed the mother, and, by follow-up visits, saw that the baby improved in health.

In this work the Health Department cooperated with the Conference on the Summer Care of Babies (now called the Conference on the Care of Babies, as it is intended, under the newly created Bureau of Child Hygiene, to continue this work throughout the year), an organization composed of representatives of some fifty societies and agencies directly or indirectly interested in the problem of infancy and motherhood. As the result of the combined and coordinated efforts of the Health Department and these agencies the mortality-rate among infants under one year of age was lowered in Greater New York from 17,438 in 1907 to 16,230 in 1908, and to 15,977 in 1909. In the summer of 1909, 140 nurses were detailed to this work by the Health Department alone.

2. *Class Instruction by Doctors.*—The idea of educating mothers in consultation or classes was first conceived by Dr. Budin in the Tarnier Clinic in Paris. Dr. Budin observed that many mothers, after leaving his maternity hospital, returned in two or three weeks without their babies. On inquiry, he found that these little ones, who had been dismissed in good health, had died; and he finally came to the conclusion that their deaths occurred largely because their mothers had no idea how to feed and care for them. As a result of this discovery,

Dr. Budin organized groups or classes of mothers, who had been delivered at the hospital, and who, after dismissal, returned to him at regular intervals, bringing their babies to be examined and weighed, while they themselves received oral instruction in infant-feeding, infants' hygiene and other matters affecting their little ones. In this way began the great movement of the *consultations de nourrissons*, which has since spread throughout Europe and was introduced in America in 1908 in the infants' milk depots maintained by the New York Milk Committee at that time organized under the New York Association for Improving the Condition of the Poor.

In the French consultations as well as in the consultations connected with the committee's depots the main thing striven for was the encouragement of breast feeding, an educational feature of great importance. No nurses were employed in the French consultations, concerning which Dr. Budin made the statement that the main essentials were a pair of scales and the service of a devoted physician.[1]

3. *Combined Class and Home Instruction by Doctors and Nurses.*—Believing that educational work among mothers would be greatly strengthened if connected with the distribution of pure modified milk, (a conclusion reached in France where, it was discovered, the *consultations de nourrissons attained their greatest efficiency* when connected with *gouttes de lait*) the New York Milk Committee on June 15, 1908, opened seven infants' milk depots in congested districts of Manhattan. In these depots pure milk was distributed to infants under the supervision of trained nurses. Volunteer physicians examine the babies weekly, weigh them, prescribe their food and talk to the mothers on infant hygiene in very much the same manner as do the physicians in the French *consultations de nourrissons*. The French method has been improved on, however, by the addition of the trained nurse who, by her home visiting and by her personal contact with the mothers, not only greatly enhances and strengthens the work of the physicians, but in many cases, where other demands intrude themselves on the doctor's time, actually bears the main burden of the educational work. In these cases the doctor prescribes and attends to the feeding, and the nurse instructs.

In order to compare the value of group educational work in milk depots, with that of group educational work independently organized, the committee supported two nurses who were in no way connected with the distribution of milk. These nurses cooperated with physicians, and organized consultations or classes at which feeding and hygienic instructions were given. From the results of this work[2] it was apparent that combining the instructional work for mothers with the distribution of milk greatly enhanced its efficiency and effectiveness, as the necessity of securing milk from a certain depot not only attracts mothers to it in the first place, but, by bringing them, either directly or indirectly, in daily contact with those who prescribe the milk, at the time when they obtain their supply, maintains a steady interest on their part which otherwise might be sporadic, easily interrupted and discontinued on slight excuse. Because of the continuity of this work as well as because careful records are kept of the weight and physical condition of the child when received; of the period of observation; of the regularity of attendance; of the continuity of physical progress while under observation; and of the weight and physical condition of the child when dismissed, the results of this work are both definite and trustworthy.

In the seven depots maintained since June, 1908, 1,207 babies were regularly (that is, for periods of three months or more) under supervision of the physicians and trained nurses. Careful records were kept of 466 cases; these records show that 55 per cent. of the babies were rated as fair, poor, bad or moribund; 70 per cent. of the families lived on $5 to $15 a week; 64 per cent. were housed in one, two or three rooms; 85 per cent. lived under conditions that were below normal; 64 per cent. of the mothers were rated as ignorant.

In spite of these facts, which it may be assumed apply to the entire group of infants fed by the Milk Committee, *the average gain in the physical vitality of the depot babies as estimated by the Bureau of Sociological Research was 24.6 per cent. and the number in good condition grew during the year from 45 per cent. to 78 per cent.*

Owing to the limited time and effort of the nurses, control was not exercised among many babies who might otherwise have been saved. Of those under control, eleven or less than 2 per cent. died.

This record of a work which is not yet perfected, demonstrates conclusively that by educating prospective mothers and by throwing about them all possible social safeguards, it is certain that a large number of deaths which now occur from ante-natal causes can also be prevented.

Educational Work of the Future.—In considering the future of educational work for mothers, it is important to remember that the quantitative problem of reducing the sum-total of infant mortality by carrying education to the mothers of the poor is no more important, although perhaps more striking and gratifying in its apparant gross results, than the qualitative problem of saving the lives of children, better fitted by heredity and environment to supply vigor and stamina to the nation.

Inasmuch as knowledge, that is to say, education, is a commodity, like milk or sugar, to be purchased or given away, those mothers who desire and can pay for instruction should be able to purchase it, while those who equally desire, but cannot afford to pay for it, should obtain it free. In this connection, the idea has long been in my mind of commercializing the work of supervision and instruction, which is now carried on by the Milk Committee's physicians and nurses in the tenement districts of Manhattan, just as the committee is actually commercializing the sale of milk in its depots. Indeed, many persons hold the opinion and often express it, that the time will come when physicians—and what applies to them applies equally to the nurses—will be paid to keep people from being sick and not to cure them when they are well. People able to pay for the knowledge which will accomplish this result would, in this case, be made to pay for it, and people handicapped by poverty, sickness or disability would be allowed to obtain it at part price or for nothing at all. The doctor who could duplicate on a paying basis among the upper classes what is already being done gratuitously among the poor with a sufficient variation of method to meet the altered demands of his patients, in the opinion of some persons, would be surprised by the success of his undertaking. The work might be extended to include the period of pregnancy, the importance of which is felt by all persons working on the subject of infancy. This would be a practical way of educating the middle class and wealthy mother, requiring only the energy and initiation of the practitioner, assisted as he is at present in other matters, by a trained nurse.

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[1] The results of the work started by Dr. Budin and carried on in France have been summarized in a Plan for Reducing Infant Mortality in New York City, which I published in the Medical Record, May 30, 1908. *Detailed information concerning the consultations held in connection* with the Milk Committee's depots will be found in the committee's report entitled Infants' Milk Depots and Their Relation to Infant Mortality. Copies of these publications can be obtained by writing to the New York Milk Committee, 105 East Twenty-second street. An article descriptive of the method of conducting a consultation, written by Dr. Ira S. Wile, who has charge of the Milk Committee's depot in Bloomingdale Guild, 146 West One Hundredth street, appeared in the May number of the Dietetic and Hygienic Journal.

[2] Infants' Milk Depots and Their Relation to Infant Mortality, p. 59 of the Milk Committee's report.

For the mothers of the poor, free municipal education, the foundations of which have already been laid by the New York Health Department, must inevitably be extended. While ignorance as gross as that found among the foreign inhabitants of our overcrowded communities continues to exist, infants' milk depots, because of the natural and tangible hold exercised by them over poor mothers, will prove a valuable aid.

As the problem of the baby's health is largely a feeding problem the proximity to the milk-supply of those who prescribe the food and give the instruction is an important consideration. It is to be hoped that the time will come when milk satisfying the requirements of physicians can be secured at a reasonable cost by all mothers who have need of it; but the value of merely referring such mothers to places where they can get milk will be increased if by daily supervision over them as they come for it, those upsets and irregularities, so often fatal, are immediately attended to. Keeping one's eye on a large group of infants in widely separated homes is a difficult matter. The nurse who sits in a milk depot and receives daily the reports brought from her little patients by those who must come for the baby's daily supply is much better able to feel the pulse of her situation and intelligently to direct her energies than the nurse whose only knowledge is obtained by a separate visit to each infant. When education and social reform have eliminated bottle-feeding, by securing mothers who can suckle at the breast, the milk depot, with its abnormal features, will not be needed. The high mortality among bottle-fed infants urges a campaign of instruction and enlightenment which will accomplish this end.

By carrying to all mothers, then, rich as well as poor, the knowledge how to feed and care for their infants—having the mother at the same time under the supervision of a physician assisted by a trained nurse, who, either on a charitable or commercial basis, supervises the child's feeding and by home visitations and demonstrations, emphasizes the educational features of the work—the problem of infant mortality will solve itself. Eventually, in one form or another, this is what it will come to—mothers will either demand and receive instruction for which they will pay, or will so sorely need it that others, in pity, will supply it free. Whether there is need of coordinating this work of paid or professional instruction with free or municipal instruction is not clear. Here, as in all other educational problems, public and private education will follow the usual lines—education for the many falling more and more into the hands of society as a whole, that is to say, in the hands of the state or municipality, and education for the few confining itself to smaller and more expensive groups.

WANTED—EDUCATORS FOR INFANT WORK

In all this educational work one need of paramount importance has received practically no attention up to the present time. This is the necessity, if we are to educate, of securing properly qualified instructors for our infant work. It is not enough for a few doctors to have carefully studied the infant and its needs. Knowledge on these matters should be more generally extended to all physicians, for however greatly the general health of the community may be elevated and sickness correspondingly decreased, as long as the world lasts, women will become mothers, children will be born, and inexperience and ignorance must be replaced by intelligence and foresight. It will not be enough, if the work is to be educational, preventive, that the doctors know simply the technical side of their problem; they must be instructors, too, able to teach others what they know, and if they labor with the poor, as some of them will, they must also have some idea of those social problems which are not learned in the laboratory and the lecture hall. Consultations may be established, schools for mothers may be founded, instructional work of one kind or another may be ever so carefully conceived and organized, but all, like a boat without oars or a college without professors, will be of no avail unless there are trained instructors to do the work.

The need of educators for infants' work has been particularly emphasized in the work of the New York Milk Committee where few of the nurses and physicians feel fully qualified for the work. It is one thing to feed and care for; another thing to instruct and prevent. Examining and prescribing are matters of individual attention; teaching can also be done individually but experience has demonstrated that the collective or group method is best. And not all doctors are qualified for this class-room work.

What can be done by group instruction, in which emphasis is placed mainly on prevention by education rather than on scientific feeding alone, has been demonstrated by Dr. Ira S. Wile at the committee's milk depot in Bloomingdale Guild, 146 West One Hundredth street. Dr. Wile talks to about thirty mothers of various nationalities at his weekly meeting. As each baby is weighed and examined he comments on its condition, either praising the mother for the manner in which she has followed his instructions or criticizing her for indifference or neglect. These remarks are accompanied by advice and instruction suggested by such incidents or circumstances as may happen to arise, as, for instance, the need of household as well as personal cleanliness, suggested by a dirty baby; the danger of overdressing, suggested by the long red flannel bandages enveloping an Italian baby; the value of breast-feeding, suggested by remarkable gains in weight of a child recently taken off the bottle; the danger of crackers, sugar, beer, tea, etc., suggested by the anemic condition of a child fed on those articles. This information delivered week after week in an entertaining way has wrought a great change not only on the mothers themselves but on the whole character of the neighborhood in which Dr. Wile has worked. Of course not all of the mothers listen all the time, any more than a college student pays precisely the same attention to every word that falls from the mouth of his professor. The total effect of the work, however, is of great value and shows what can be done by a real teacher in work of this description.

Dr. Wile educates at the same time that he feeds, using each mother, baby and incident in the life of each, as an illustration to his text. This method has been criticized because many physicians feel that their work is of an individual nature and that best results are obtained when they deal with their patients privately. This is undoubtedly true if they are prescribing for patients. It is not true if they are educating to prevent sickness, for that is work of a different nature—educational work to which educational methods must be applied. All persons realize the value of personal, intimate relation between doctors and patients, but after the examination and prescription (if it is quite impossible to do two things at the same time), should come the lesson which teaches and prevents. If the doctor can feed at one time and educate at another, well and good. If he *can* only feed and not educate, an educator must be secured in addition.

It is because doctors are not educators that this important work is often left to nurses who work under them. Possibly there is a reason for this; possibly women are naturally better fitted to teach other women than are men. I will not say that this is not so (and certainly if it is so, it opens up a new and attractive educational field to women), but the need of physician educators must nevertheless be met. At present these educators *do not* exist. Physical directors tell us how to care for ourselves but the physician has contented himself mainly with administering pills and medicine to us when we are sick. This the future will surely alter. Prevention by legislation, and social reform are not enough. There must be prevention by education, carried to the masses by the newspapers and magazines and to individuals directly by men and women who employ known methods of educational work. The problem of infant mortality is in its infancy. Taking life at its source, it lays the foundation for all future health and physical efficiency. The doctor who can teach and prevent is the one needed. If there are no educators they must be manufactured; if in no other way by establishing schools of medical and physical pedagogy. For the doctor is the educator of the future; the best knowledge is that which gives life, and gives it most abundantly.

105 East Twenty-second Street

THE PRESENT STATUS OF THE ETIOLOGY OF SQUINT *

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Twenty-five years ago, the theory of Donders as to the causation of squint seemed firmly established despite the objections brought forward at that time by Schweigger, but since then several new theories have been advanced, one of which at least, has secured a considerable following. A study of the various monographs bringing forward theories other than the accommodative one shows that there is a lack of unanimity regarding the essential phenomena entering into the question. Thus one observer (Straub[1]), who believes that a failure of the development of binocular vision accounts for both the hyperopia and the squint, admits the almost constant and important association of the two conditions but has not found that the vision in the amblyopic eye can be improved frequently or materially by practice, and in those instances where parallelism of the visual axes is obtained he finds that only the rudiments of binocular vision have been secured.

Worth[2], the introducer of the theory of the failure of development of the so-called fusion faculty, does not find that there is an undue proportion of hyperopes of moderate degrees among squinters, but he does find that by practice the vision of the amblyopic eye may usually and greatly be improved and binocular vision established.

Bjerke[3] states his belief that a peculiar innervation is the cause of squint, finds in the refractive error *only* a favoring influence and claims that the amblyopia is primarily a cerebral suppression and for a long time only functional, or we could not have the enormous improvement in vision which follows exercise of this eye. He also finds that binocular vision is so frequently recovered after operation for squint that it could not have been primarily undeveloped and thus the cause of the squint; and he says, further, that many can squint who have excellent binocular vision. The declination and hypertropia theory is brought forward by its sponsor (Stevens[4]) because he found these conditions almost constantly associated with squint and because he found *no relation between* hyperopia and convergent strabismus.

An analysis of the assertions contained in the above summary shows such contradictions in the findings and in the results of treatment that it would seem that they must result either from bias or from conclusions drawn from too few observations. One author finds constant association of hyperopia and convergent squint; another finds no such association; one finds that the vision in the amblyopic eye cannot often or materially be improved; another finds that not only can vision be improved but that binocular vision can be established by practice; one finds that when binocular vision is secured it is only *rudimentary* while another finds it so *frequently restored* after operation that he is convinced that the center for binocular vision could not have been undeveloped.

According to its opponents, the inherent weakness in the accommodative theory is that it is not always high-degree hyperopes who have a convergent squint and that not all squinters are hyperopic.

The fact that some clinicians have not found a greater relative proportion of hyperopia and convergent squint than would be accounted for by actual greater frequency of this refractive condition of the eye, has caused these observers either to discard Donders' theory or to assign but a secondary importance to the refractive error.

Stevens, who believes the causes of convergent strabismus to be the declination of the meridians of the eye and hyperphoria (the latter usually itself the effect of the declination), gives the state of the refraction in 67 of his cases of esotropia. Of this number 23 individuals were emmetropes, 18 myopes and 20 hyperopes. The estimations were made without the use of cycloplegics. He has observed that "in many cases in which during the period of life while accommodation was active, atropin revealed a supposed 'latent hypermetropia,' there has been no indication of hypermetropia when, as the result of presbyopia, years later, the accommodation has been practically abolished." He says that "it thus appears that the mydriatic may cause a condition of apparent hypermetropia, which is not the normal refractive condition of the eye."

He justly holds that the figures given above do *not* sustain the view that convergent strabismus is caused principally by hyperopia but then these figures are at variance with those of all other writers. I do not share in the opinion expressed by Stevens regarding the production of hyperopia by the use of a mydriatic. I have oftener seen a hyperopia develop or an existing hyperopia increase at the time of life when the accommodation is weakened by age. More rarely, a decided rapid increase in the refraction of the eye is seen as the result of swelling of the lens at this same period of life.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Etiology of Anomalies of Refraction and the Origin of Emmetropia, Arch. f. Ophth. (Graefe's), March 19, 1909, lxx, 1.

[2] Squint: Its Causes, Pathology and Treatment, Philadelphia.

[3] Arch. f. Ophth. (Graefe's), Jan. 5, 1909, lxix, 3.

[4] Motor Apparatus of the Eye, Philadelphia.

I have made a tabulation of 485 cases of convergent strabismus with hyperopia in groups according to the refractive error present in the meridian of lowest error of the fixing eye. This plan was followed in order that the results might be compared with the statistics of Worth which are similarly arranged. In my series, all the estimations were made under cycloplegia produced by a 1 per cent. solution of atropin instilled into the eyes three times daily for from 2 to 5 days. Reference to the table published by Worth will show that in 66 per cent. of his cases the hyperopia was over 3 D. In my series this group represented 44 per cent. of the whole. In 68 per cent. of Worth's cases the error was higher than 2 D. In mine in 70 per cent. Basing the calculation on the highest meridian of the deviating eye my series shows that in 55 per cent. the error was over 3 D, and in 75 per cent. it was over 2 D. It will be noted that in 10 per cent. the error was over 6 D.

TABLE 1.—FOUR HUNDRED AND EIGHTY CASES OF MONOLATERAL CONVERGENT SQUINT ARRANGED IN GROUPS

Refractive error in the lowest meridian in the fixing eye.	No. of Cases.	Percentage Whole Numbers.		Refractive error in the highest meridian in the deviating eye.	No. of Cases.	Percentage Whole Numbers.
Not above + 1 D	48	10	56%	45%	33	7
Above + 1 D, not above + 2 D	98	20			86	18
Above + 2 D, not above + 3 D	126	26			96	20
Above + 3 D, not above + 4 D	90	19	44%	55%	102	21
Above + 4 D, not above + 5 D	55	11			76	16
Above + 5 D, not above + 6 D	36	8			43	9
Above + 6 D, not above + 7 D	20	4			31	6
Above + 7 D, not above + 8 D	5	1			12	3
Above + 8 D, not above + 9 D	3	0.6			3	0.6
Above + 9 D, not above + 10 D	...	..			3	0.6

Comparing the above percentages with those in a series of 250 cases of hyperopia without squint, grouped according to the refractive error in the highest meridian, in which the patient sought relief from asthenopia, it was found that in only 10 per cent. was the error over 3 D, and in 27 per cent. over 2 D, and in only 1.2 per cent. was the error above 6 D. There were no cases in which the hyperopia equalled 8 D. In a series of 500 cases in which the percentages are calculated on the error in the lowest meridian of either eye it was found that in less than 5 per cent. was the error above 3 D, and in 16 per cent. above 2 D, and in less than 0.5 per cent. was it above 5 D. In the above 2 series the estimations were made either under atropin or homatropin cycloplegia.

TABLE 2.—TWO HUNDRED AND FIFTY CASES OF HYPEROPIC REFRACTION ARRANGED ACCORDING TO THE REFRACTIVE ERROR IN THE HIGHEST MERIDIAN

	Number of Cases.	Percentage Whole Number.	
Not above 1 D	50	20	92%
Above 1 D, not above 2 D	137	54	
Above 2 D, not above 3 D	46	18	
Above 3 D, not above 4 D	11	4	
Above 4 D, not above 5 D	9	3	
Above 5 D, not above 6 D	4	1.6	
Above 6 D, not above 7 D	1	0.4	
Above 7 D, not above 8 D	2	0.8	

TABLE 3.—FIVE HUNDRED CASES OF HYPEROPIC REFRACTION ARRANGED IN GROUPS ACCORDING TO THE REFRACTIVE ERROR IN THE LOWEST MERIDIAN

	Number of Cases.	Percentage Whole Number.	
Not above 1 D	270	54	96%
Above 1 D, not above 2 D	150	30	
Above 2 D, not above 3 D	61	12	
Above 3 D, not above 4 D	9	2	
Above 4 D, not above 5 D	8	2	
Above 5 D, not above 6 D	1	0.2	
Above 6 D, not above 7 D	1	0.2	

Some years ago I tabulated for Dr. William F. Norris 378 cases of convergent squint in reference to the state of the refraction. In 96.4 per cent. there was hyperopia, in 1 per cent. there was anisometropia and in 2.9 per cent. there was myopia. A consideration of the above figures will show that not only is hyperopia the preponderating refractive error with other refractive states in a negligible quantity but that in considerable more than one-half of the cases, when the estimation is based on the highest meridian of the deviating eye, the hyperopia is above 3 D, and slightly less when it is based on the lowest meridian of the fixing eye. They also show that the high errors are of far more frequent occurrence than in non-squinting eyes, outnumbering them 10 to 1[5].

In the presence of a hyperopic error any condition which would reduce the vision of one eye below that of its fellow would act as an exciting factor in the production of a convergent stabismus, and this factor is frequently found in the existence of a higher degree of hyperopia or an astigmatism of a higher degree in one eye than in the other or in an unilateral astigmatism, as shown in the Table 4.

TABLE 4.—TABLE OF COMPARISON OF THE REFRACTIVE ERROR IN THE TWO EYES OF SQUINTERS

	Percentage.
Astigmatism greater in the deviating eye 0.50—1 D	17
Astigmatism greater in deviating eye over 1 D	25
Astigmatism greater in fixing eye	12
Hyperopia greater in deviating eye, 0.50—1 D	10
Hyperopia greater in deviating eye over 1 D	20
Hyperopia greater in fixing eye	2
No difference	10

According to my figures, there is not the close correspondence between the number of hyperopes of over 2 D in squinting and non-squinting patients, found by some clinicians.

Worth admits that hyperopia stands in some close etiologic relation to convergent strabismus, but considers that a defect of the so-called fusion faculty is the cause of the squint. If a defect in the fusion faculty be the cause why is this defect so largely associated with hyperopia of middle and high degrees and not oftener with hyperopia of low degree, emmetropia and non-progressive myopia? In my series, only 30 per cent. of patients had hyperopia of less than 2 D, whereas in hyperopia without squint this amount of error represented 72 per cent.

A fusion faculty which had normally developed up to the time of the occurrence of a squint from disturb-

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5. In tabulating the cases which were obtained from the records of Dr. Norris, it was remarked that in the earlier years when less exact methods of determining the refractive error were in use the estimations gave a lower degree of hyperopia than in those obtained from more recent records and this probably accounts for the lower percentage of higher degrees of hyperopia in my series than in Worth's.

ance of the normal relations between accommodation and convergence might lose its function when the need for such had disappeared with the loss of binocular vision. A similar loss of function is seen in the amblyopia of an eye which has been turned. In children convalescing from febrile disorders, and particularly from whooping cough, the power of accommodation is weakened and if the child returns to its books during this period a convergent strabismus sometimes results even though there may be present only a low or moderate hyperopic error. The weakening of the accommodation produces a disturbance of its relation to convergence precisely in the same manner as does a higher degree of hyperopia with a normal accommodative power, and a squint results even at an age when the fusion faculty is believed to be fully developed. The fact that patients with convergent strabismus have been cured by developing the fusion faculty after the method of Worth is taken as proof that a defect in this faculty must have been the cause of the squint. However, the method by which the cure of the squint is brought about consists of many steps and this renders it difficult to decide in what degree any or all are concerned in bringing about the result. The first step is the correction of the existing refractive error. The second is the overcoming of the amblyopia in the turned eye. The third is developing true fusion. The fourth is increasing the amplitude of fusion, during which procedure the angle of the tubes of the amblyoscope is altered in a way that aids in a restoration of the parallelism of the visual axes. The fifth is the further development of the fusion faculty by stimulating it to bring about binocular vision with the sense of perspective under equalized illumination of the objects.

Every clinician has observed how frequently the simple correction of the refraction error relieves the squint, and there is general agreement that Worth's ingenious method of restoring vision in the amblyopic eye is productive of excellent results; furthermore, in increasing the amplitude of fusion something is also accomplished in the way of diminishing convergence excess. So that aside from its purpose in developing the fusion faculty, the treatment must aid materially in restoring the normal relations between convergence and accommodation.

One of the cases reported by Worth is of particular interest. It was that of a child 5 months old with H.—5.5 D in one eye, and 6 D in the other. This child was cured by glasses and an occlusion bandage. Worth's explanation is that by giving glasses and so relieving strain on accommodation the visual axes were in the course of from 5 to 6 weeks brought back to parallelism and this allowed the natural development of the fusion sense to take place.

If it be as Worth says that the fusion faculty was allowed to develop naturally by reason of the visual axes having been brought back to parallelism it follows that if the visual axes had not been brought back to parallelism the fusion sense would not have developed naturally; and this, it seems to me, explains why the fusion faculty is found undeveloped in those cases of squint in which the refractive error has not been early corrected and in consequence of which a convergent squint has occurred. In other words, the undeveloped fusion faculty is a result and not the cause of the squint. The theory of the absence of a normally developed fusion faculty seems best adapted to explain essential alternating squint; that is, a squint which does not evolve into the monocular permanent type but which continues through life as an alternating one, as here, as a rule, the visual acuity and the refraction are not at fault. To me, it would seem that these facts, the absence of an error of refraction and the equal visual acuity of the two eyes, which sustain the theory when it is applied to this class of strabismus, rather weakens the theory when it is sought therewith to explain permanent monocular squint, as this form is so constantly associated with hyperopia and unequal vision (which determines the deviating eye that later becomes amblyopic). It would seem reasonable to suppose that the almost constant feature is the essential causative one.

The perfect correlation of the facts in myopia with divergent strabismus, with those in hyperopia with convergent starbismus, is a strong argument in support of Donders' theory. As the divergence does not occur early in life, but appears only after the developing myopia has produced a derangement of the normal relations which exist between convergence and accommodation, the fusion faculty is found to be well-developed. Notwithstanding this, it is powerless to maintain the parallelism of the visual axes when once the coordination between these faculties has been disturbed.

The theory of Donders is upheld by the following facts: Convergent strabismus is associated with hyperopia in over 95 per cent. of the cases; the average degree of refractive error is very much higher in a series of cases of hyperopia with convergent stabismus than it is in a series of cases of hyperopia without squint; there is usually a difference in the refractive error in the two eyes sufficient to unequalize the visual acuity and thus favor a deviation of the more defective eye; in a considerable number of cases the correction of the refractive error relieves the squint (I believe that this number would be greatly increased if glasses were prescribed as early as the third year of life. Worth has shown that it is perfectly possible for them to be worn at an even earlier age); the fact pointed out by Donders that a convergent squint can be produced by placing before the eye a concave glass; that divergent strabismus is usually associated with myopia and that the same process of reasoning by which it is shown that hyperopia is the cause of convergent stabismus serves to explain the causation of divergent strabismus by myopia.

It appears to me that when one approaches the subject with an unbiased mind and considers the facts as they are, the accommodative theory accords best with these facts and when it fails in individual cases these can well be explained by other known causes of strabismus, such as congenital palsies, structural defects or anomalies, favoring effects of abnormal orbital axes, divergence weakness and congenital amblyopia. I believe, with some other authors, that congenital palsies of the ocular muscles are more common than heretofore supposed and that some of the cases of monocular permanent squint apparently comitant, with normal vision in the squinting eye, are the end results of paralytic strabismus.

I wish to express my thanks to Dr. J. Hiland Dewey and to Dr. D. Forest Harbridge for their kind assistance in the preparation of the statistics of this paper.

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ABSTRACT OF DISCUSSION

DR. CASSIUS D. WESCOTT, *Chicago:* One of my revered teachers was fond of saying that "no effect is the result of a single cause." It is quite likely that there are two or more causes, each *one* evinced, in every case of squint. The multiplicity of opinions held to-day as to the cause of squint would, of itself, indicate the probability of a *variety* of causes of this defect. It must be true, however, as Dr. Zentmayer suggests, that some who have written on the subject "have been influenced by bias, or have drawn their conclusions from the study of too few cases;" or, I would add, from a faulty method of study. I think we need not, for example, long consider the opinion of one who studies squint cases without a cycloplegic or who finds 23 emmetropes in 67 cases studied. Mr. Worth's contribution is important, if true, but I cannot avoid the feeling that his studies have been made to establish a theory rather than for the purpose of learning all of the truth about squint. He gets rather careless of his theory, however, when he tells about the little girl of 5 months, referred to by Dr. Zentmayer, cured by glasses "which restored parallelism and allowed the natural development of the fusion sense to take place."

My own experience would indicate that convergence excess induced by excessive accommodation due to hyperopia is a sufficient cause of convergent squint in a very large number of cases. If, added to this, we have defective vision, or more complicated refraction in one eye, we have another potent reason for squint. Dr. Zentmayer's figures are very suggestive in this connection, and he has placed us all under obligations to him for presenting his tables, and bringing this subject before us once more. I believe with him and Dr. Duane that the undeveloped fusion faculty is often a result of squint; that it is ever the sole cause, I very much doubt. We must not forget the anatomic conditions which favor squint. Dr. Risley especially has called our attention to the formation of the head, and the direction of the axes of the orbits in connection with both dynamic and static squint. In accounting for some cases of squint, as well as for the fact that not all hyperopes squint, it is well to remember also the very great individual difference in the elasticity, or amplitude of the relation between accommodation and convergence. It is also quite possible, as Dr. Duane says, that convergence excess with divergence deficiency, and the contrary conditions, are due to central causes. I see no reason why any case of comitant convergent squint should not be alternating, provided vision is equally good, and the refractive error relatively the same in both eyes. The thing that determines constant squint is the low vision, or more difficult vision of one eye. I do not mean to undervalue the labors of Mr. Worth or the assistance he has given us in the treatment of this troublesome condition, but I quite agree with Dr. Zentmayer that the results of Worth's treatment do not prove the correctness of his premises as to the etiology of squint.

Dr. G. C. Savage, Nashville, Tenn.: Dr. Zentmayer has presented about the sanest paper on squint that I have ever heard in this Section. The fundamental, underlying essential of binocular single vision is corresponding retinal points. Without this there can be no such vision. I am going to show the fundamental underlying principle of corresponding retinal points, and that its non-existence is the cause of that form of squint which no man has ever yet corrected or ever will correct. At the crossing of the vertical and horizontal meridians is the macula of each eye. Now they should correspond one with the other. Let us begin at the macula on the right side and follow a fiber to the commissure, across the commissure and on until it terminates in a cell of the left cuneus. Then let us trace a fiber from the left macula until it terminates in the same cell of the left cuneus. A double image means a double impression. The double impression carried along these two nerve-fibers to a single cell means a single sensation, and therefore means that the images have been fused. Unless common brain-cell connection exists there is no such thing as binocular single vision. Now, tracing the fibers to separate cells in the same cuneus, or finding that one macula is connected with one cuneus and the other with the opposite cuneus, would mean double sensation and impossible fusion. Corresponding retinal points mean common brain-cell connection. In the absence of common brain-cell connection there can be no fusion. Now we know that we have a case of squint depending on want of common brain-cell connection because of two things: first, the child squints at birth and squints from that time on; second, whether in a child or a youth or an adult or an old person, one eye sees as well as other alone. That I call insuperable squint. You may try to fuse these images only to fail. They will cross or recede. You may get these close together but they will not fuse, because of the want of common brain-cell connection. But suppose you have a case of squint that has occurred in the second or third year. You will find that at the time of crossing or squint the vision in the crossing eye is low. In a few years it is less still, and still lower later on, and finally there is no vision in the squinting eye at all. This is the kind of a case in which there is a common brain-cell connection; but because of the existence of factors that lead to divergence, convergence, elevation or depression, one image must be suppressed by the mind, and the mind begins to suppress it, and keeps on suppressing it until the power is perfected. We can train the blind eye out of its blindness after operating. These are the cases I like to find for the patients can be cured.

The fusion power is a power of the mind. There are fusion centers and over these fusion centers the fusion faculty of the mind presides. Each fusion-center has its own muscle under control, and only one muscle. Now suppose a child is born with common brain-cell connections and there is a disposition for the development of squint. If the eye turns in or out far enough to let the image go beyond the fusion retinal area the eye will stay turned until properly treated. As long as may be possible the fourth basal centers, by acting on the two externi, will prevent the interni from crossing the eyes, but these centers act only when the images are on the fusion area, and thus under the stimulus of the fusion faculty of the mind.

Dr. L. Emerson, Orange, N. J.: It does not seem to me that there is opportunity for controversy between the theories of Worth and of Donders on the etiology of squint. I am very much a believer in Worth's theory. There is without question a fusion faculty, and a point which Worth makes and which does not seem to be clearly understood is that there may not only be an absence of the fusion faculty, but a deficiency thereof. Now as underlying all cases of squint I have never seen one case in which the fusion faculty was not either deficient or absent. There is also the cause, hyperopia, and given these two things, absence or deficiency of the fusion faculty and the presence of a refractive error, you can account for nearly all forms of convergent squint. The deficiency of the fusion sense explains why we have cases of squint in which there are no refractive errors, and there are many of these cases of squint which can be cured by proper methods. The patient has a perfect cure and yet with the stereoscope or amblyoscope it is absolutely impossible to get any fusion up to the second or third grade, showing that there is a deficiency of the fusion sense.

Dr. W. Zentmayer, Philadelphia: I have no quarrel with Worth as to the existence of a fusion faculty. I do not doubt that it exists, and I do believe that its absence may be the cause of certain cases of convergent squint.

THE NORMAL VARIATION OF THE SYSTOLIC BLOOD-PRESSURE

A STUDY OF ONE THOUSAND CASES

H. P. WOLEY, M.D.
CHICAGO

The practice of taking blood-pressures in insurance examinations has become comparatively common in the last few years. The question was soon asked, What is the normal blood-pressure? Is the blood-pressure different at different ages and, if so, what is the difference? We all know that the pulse may fluctuate between certain limits, say 60 to 85, and still we would not hesitate to say that a person within those limits was in health. If it is beyond either limit we would make a further study of the case, fearing that it might be a pathologic condition.

The medical examiner, from an insurance standpoint, is in the opposite position from the general practitioner in his office, for the latter is dealing almost entirely with cases in a pathologic condition, while the insurance medical examiner is dealing with healthy persons and trying to find out how far their cases may deviate from the normal, typical case and still be healthy and a first-class risk. He is trying to establish boundary lines, a high mark and a low mark, within which an applicant may be safely considered in health, and outside of which he would be looked on with suspicion.

With these ideas in view I have collected, during the past three years, the records of 1,000 blood-pressures, all of supposedly healthy individuals. There has been excluded every case of kidney disease, heart disease, and in fact, every case in which there was a pathologic condition found, either from physical examination or from the history. These cases represent typical healthy individuals, ranging in age from 15 to 65. These records were all taken by five different physicians. Often they were taken by two physicians working together. Again, records were made at the same sitting with two different instruments: for instance the mercury column and the Collins or the Dr. Rogers' Tycos sphygmomanometer. From time to time the instruments were corrected or standardized by subjecting them to the same pressure and then the readings taken. This was done by using the usual 5-inch cuff, but one having several openings or rubber tubes, to each of which a sphygmomanometer was attached. When the pressure was raised in the rubber bag, an equal pressure was made at the same time on every instrument. This was done to reduce the liability of error and insure as far as possible an accurate and uniform reading. All of the results herein recorded were made by using the 5-inch cuff about the arm, with the subject in the sitting posture, and the systolic reading taken at the point at which the pulse disappeared and reappeared, with the finger on the radial artery.

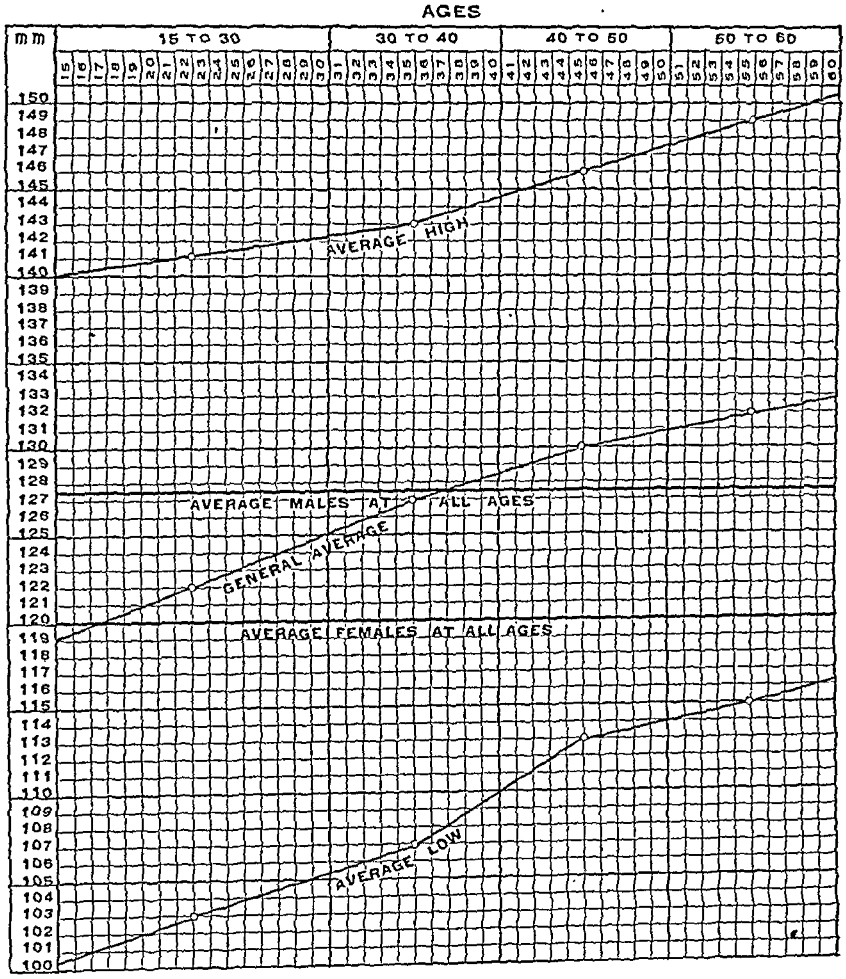

Chart showing the normal limits of variation in systolic blood-pressure.

From comparison and study of many cases during the last five years, I believe that, at any age, a constant blood-pressure of 160 mm. or over is pathologic, and therefore should be excluded from forming any part in the results or conclusions reached in this paper. Many of these cases have been studied, where it was possible, and albumin and casts have been found in the urine sooner or later, though sometimes in small amounts. It explained the condition, however. This has been of considerable assistance, for many risks might have been accepted as first-class, were it not for the abnormal elevation in blood-pressure, which led to a further study.

Experience has taught us that the selection of a single individual's blood-pressure, as a high mark or a low mark, would be manifestly unreliable, while it is equally certain that the general average of a group of blood-pressures would be pretty nearly the truth. The larger the group the more accurate the results. It is found to be practically correct in considering vast numbers of supposedly healthy individuals that about 85 per cent. prove to be healthy and 15 per cent. are questionable. Following this principle, I shall take the general average of the group of 15 per cent. of the highest blood-pressures and the general average of the group of 15 per cent. of the lowest blood-pressures, and designate them as the average high and the average low blood-pressure.

With this explanation, the results reached after a study of 1,000 blood-pressures are as follows:

The average blood-pressure for males at all ages was 127.5 mm.

The average blood-pressure, for females, at all ages, was 120 mm.

By taking them in groups, first, from ages 15 to 30, the average blood-pressure was 122 mm. An average high blood-pressure of 141 mm., and an average low of 103 mm.

Second, those from 30 to 40 years of age gave an average blood-pressure of 127 mm. An average high of 143 mm., and an average low of 107 mm.

Third, those from 40 to 50 years of age gave an average blood-pressure of 130 mm., an average high of 146 mm., and an average low of 113 mm.

Fourth, those from 50 to 60 years of age gave an average blood-pressure of 132 mm., an average high of 149 mm., an average low of 115 mm. These are best shown by the accompanying chart.

By looking at the chart it will be noticed that the maximum and minimum blood-pressures are about equally apart from the average blood-pressure at a given age. It can also be seen at a glance what the average blood-pressure with its maximum and minimum marks should be at any given age from 15 to 60. There is a gradual rise in the blood-pressure as the years advance. There is also a corresponding rise in the high and low averages. It can be readily seen that between 50 and 60 years of age a man giving a blood-pressure of 145 mm. could undoubtedly be accepted without further question, while a man under 30 years of age giving the same blood-pressure would present a case for further study and investigation.

In regard to women, it will be noticed that the average blood-pressure at all ages was 120 mm., about 8 mm. below the average in males at all ages. There is practically the same ratio of increase in blood-pressure in women as in men at the same age. In women it averages 8 points below the men.

It is a source of regret that the number of cases above the age of 60 proved to be too small to obtain a fair average. There appeared, however, to be quite an advance in blood-pressure above the age of 55. Therefore, I have selected the group from 55 to 65, which gives an average blood-pressure of 138 mm., an average high of 153 mm., and an average low of 120 mm.

There are a few points worthy of notice that might be mentioned here, namely, in regard to the pulse—rapid or slow. The average blood-pressure in all cases with a pulse under 65 was 123 mm., while the average blood-pressure in all cases with the pulse over 85 was 130 mm. It was also noticed that there were twice as many healthy individuals with a pulse over 85 as there were with a pulse under 65.

It was the desire in making the above study to obtain as far as possible the normal variation in blood-pressure in health, which would be of practical service, not only to the insurance examiner, but to the general practitioner. It would not have been sufficient to accept the blood-pressure alone; therefore, physical examination of every case was necessary in order to exclude all of those who were in any way impaired, thus leaving, as far as it was possible, typically healthy individuals.

171 LaSalle Street.

THE ADVANCEMENT OPERATION IN SQUINT *

VARD H. HULEN, A.M., M.D.
HOUSTON, TEXAS

Teachers of ophthalmic surgery have long advocated the more frequent performance of advancing and shortening operations, and some do them exclusively in preference to tenotomy for strabismus, but I believe that most of us are still very largely doing tenotomies. It must be that none of the various methods of advancement are considered entirely satisfactory, the simpler operation of tenotomy being more frequently chosen, hoping thereby to obtain an acceptable result.

Most ophthalmologists will agree that the advancement operation is more certainly corrective, physiologically more scientific, and functionally safer than tenotomy, and it is my conviction that a tenotomy alone should rarely be done in any case of squint.

A rather extensive observation of the work of various operators, including repeated visits to many of the large European eye clinics, convinces me that the ideal advancement operation has not yet been presented. There are certain requisites for this ideal operation, as they appeal to me:

First, the method must be simple and expeditious in order that the average patient may submit to it under local anesthesia and that the average operator may use it satisfactorily.

Second, when the operation is done under general anesthesia the determining sutures should be under such subsequent control that any possible deviation may be easily corrected when the true position of the eyes is ascertained.

Third, the scleral suture should not depend in the least on the episcleral or conjunctival tissues for its support.

Fourth, one suture firmly introduced into the sclera is sufficient and it should be placed with the tendon insertion in view and before the muscle has been severed.

Fifth, the suture in the tendon must be firmly lodged to avoid a tendency to give or cut out, yet it must not be looped or knotted to the muscle, which would impede the vascular supply of the tissues involved and also make its removal difficult, thereby endangering the satisfactory adhesion of the tendon to the sclera in its new position.

Sixth, and this is very important, the tendon and globe should not be pulled into the position for fixing by the process of tying the sutures.

An old surgical law, the observance of which is particularly important in ophthalmic surgery, which forbids that tissues be pulled into position by the sutures, is broken in nearly all the methods for advancement known to me. Traction aids will eliminate the operator's agony from broken sutures or cut and strangulated tissues due to vain efforts to obtain the desired position by straining at knots already tight.

Apropos of these statements I beg to describe an advancing and shortening operation which I first did five years ago and which, with slight modifications, has since seemed to have fulfiled my requirements. Reference to the two accompanying diagrammatic illustrations will render a minute description unnecessary. Figure 1 shows the method of introducing the sutures; Figure 2 shows the position of the traction sutures in use and the method of knotting the fixing sutures.

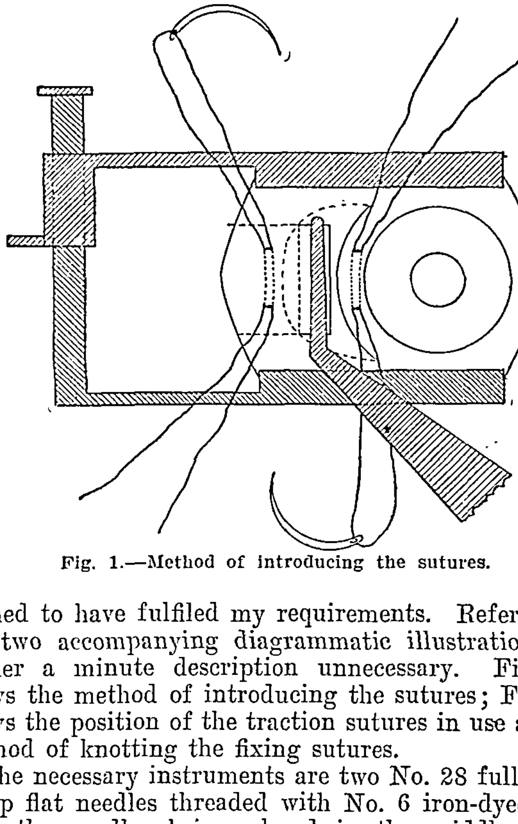

Fig. 1.—Method of introducing the sutures.

The necessary instruments are two No. 28 full-curved sharp flat needles threaded with No. 6 iron-dyed black silk, the needles being placed in the middle of the sutures, a needle holder, fixation forceps, a strong pair of advancement or muscle forceps, tenotomy scissors, and a speculum; a strabismus hook is often useful.

The procedures are the same for either the internal or external rectus. After complete anesthesia, local or general as the case may require, the speculum is introduced, the conjunctiva pinched up and incised vertically about 4 mm. from the cornea; the incision is extended above and below parallel with and corresponding to about one-third the circumference of the cornea, and the conjunctiva separated toward the cornea and the site of the tendon. Next the tendon is loosened along its upper and lower margins and clamped close to the scleral insertion with the muscle forceps, including the

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

distal margin of the retracted conjunctival wound. The globe is held in perfect control with the muscle forceps, and, the tendon insertion being completely exposed, the scleral stitch should be accurately placed. The conjunctiva is first entered from without inward, then with the needle firmly grasped in the holder the suture is inserted vertically into the sclera close to the limbus, taking as deep and wide a bite as is safe, and the double suture drawn half-way through, again penetrating the conjunctival flap.

The tendon is next severed from its attachment, all the tissues as held in the jaws of the forceps are lifted and stretched into position for placing the second suture; the needle is made to penetrate from without inward through conjunctiva, Tenon's capsule and muscle at a point one-fourth the width of the muscle from one edge and as far back as we may wish to advance, the doubled suture is pulled half-way through and the needle is reintroduced at the corresponding point from the other border penetrating, from within outward, muscle, check ligament and conjunctiva.

The muscle forceps are then cut loose by severing the tissues as far from the jaws as one wishes to shorten, but not close enough to the suture to weaken its hold.

The needles are removed by cutting the sutures close to them. It will then be seen that there are really two sutures in the sclera and also two in the muscular tissues. One of the scleral sutures and one of the muscle sutures are crossed and used during the tying part of the operation for traction purposes only. The assistant has perfect control of the globe and the muscle by means of these traction sutures, and when he has brought them into the exact position required for correct fixation the operator ties loosely with a double twist the upper ends of the other sutures, the lower ends of those sutures are similarly tied, then he tightens the upper knot, now the lower one, and so on until the proper tension has been secured; each knot is then completed by the final twist, and the operation is practically finished. Supplementary conjunctival sutures will rarely be required.

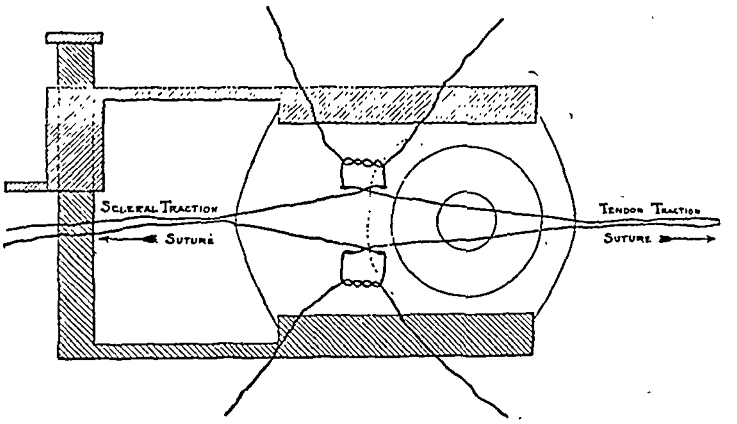


Fig. 2.—Position of the traction sutures in use, and the method of knotting the fixing sutures.

Many details and important points not here described will readily occur to the surgeon performing this operation, or are common to all similar procedures.

Under general anesthesia, we cannot be sure of the correction, and it is one of the decided advantages of this method that the sutures used for traction can be left *in situ* until consciousness is regained. I usually allow them to remain until the following day, and if the squint has been materially over-corrected the tied sutures are removed, and the traction sutures are used to fix the eye in its correct position with but little discomfort to the patient or embarrassment to the operator.

At the conclusion of the operation done under local anesthesia we can be satisfied to remove the traction sutures immediately.

Also, should the surgeon prefer in any case to do the "tucking operation," the method should be precisely the same as described, except that the tendon is not severed, the muscle forceps are simply unclamped (the scleral suture will have been placed further from the limbus) then, when the traction sutures are used the muscle is smoothly folded on itself and any desired tension or position fixed by knotting the other sutures as in the strictly advancing operation.

Both eyes are bandaged and the patient is kept quiet. In five or six days the sutures are removed by cutting the upper one to the nasal side of the knot and the lower suture to the temporal side of its knot, or *vice versa*, and lifting them out.

It might be added that in doing this operation under general anesthesia, especially in marked squint, in which I combine it with tenotomy of the opposing muscle, a control suture is introduced through the tenotomized muscle and its stump.

In this method of advancing an ocular muscle attention is directed particularly to its simplicity, to the minimum amount of traumatism to all tissues, to the accuracy possible and security obtainable from the method of anchoring the scleral suture, the vertical introduction is decidedly advantageous, to the efficient "bite" of the tendon suture looped across the under surface of the muscle, to the perfect control of the parts to be united by means of the traction sutures which were obtained without additional suturing, and to the advantage of having already at hand a perfectly placed pair of sutures to be used, if required, for correcting any over-effect following the primary operation.

Scanlan Building.

ABSTRACT OF DISCUSSION

Dr. H. H. Briggs, Asheville, N. C.: The great variety of principles and methods employed in shortening an ocular muscle is sufficient evidence that no one method satisfies even the majority of ophthalmic surgeons, or is adequate for the correction of the various types and degrees of heterotropias with which the clinician is constantly confronted. Were there one and only one exact and best method of changing the anatomical relationship, and therefore the physiological effect, of an abnormally acting muscle, surely some one of our confrères of to-day, not to mention the great ophthalmologists who have gone before, would have discovered it. Even as it is, we have graduated tenotomists, partial tenotomists, tendon stretchers and tendon tuckers. If no operation for advancement had ever been made, and if one familiar with the anatomy and physiology of the eye, and surgical technic, should be required to devise a method of advancing or shortening an ocular muscle for the correction of heterotropia, I fancy he would reason thus:

1. It must be done without danger to the vision and with the least possible chance of infection. In these days of aseptic surgery we expect healing without infection, but in wounds made in mucous membranes we can never be absolutely sure of this, and to this end the amount of suture material and the number of knots should be reduced to a minimum consistent with efficiency, and the dissection also should be limited to that barely necessary to accomplish the advancement. 2. It must be effective; that is, the globe must be rotated to and maintained in such position as is necessary to transpose the visual axis as nearly as possible to the primary position after convalescence. The advanced tendon, in case of advancement, or the shortened tendon or muscle in case of resection or tucking, must be held firmly *in situ* and maintained in position until adhesion takes place. 3. The cosmetic effect must be good. The eye is the most beautiful of all the organs, and its

beauty must be guarded. The purpose of advancement is to improve the appearance, and straightening the eye is practically all that is ever accomplished, binocular single vision and fusion being seldom ever acquired, and an ugly scar from reckless mutilation of conjunctiva and Tenon's capsule and from redundant sutures and knots may be worse than the squinting eye, otherwise beautiful.

The object of advancement is to change the direction of the visual axis of a squinting eye back to a position parallel to that of its fellow eye, or to its primary position. To accomplish this, we change the point of application of a force which rotates the globe by acting as a fulcrum about the center of rotation of the eye. This force is the muscular force, and acts in a somewhat variable tangential plane to the globe toward the origin of the muscle. The tendinous insertion, or point of application of the force, is a variable point as compared to its origin, which is fixed, and which cannot be changed. The insertion after tenotomy or resection may be transferred forward or the same physiological effect may be had by tucking or looping the tendon without molesting its insertion.

It is difficult to discuss a method of operation without having first tried it, and I am sorry I have not had the opportunity to try that of Dr. Hulen. It has the same features as do all operations where tenotomy and resection are used, and the disadvantage over the shortening methods without tenotomy—the possibility of not advancing the muscle along a meridian of the eye directly forward from the original insertion. This may result from not placing the scleral sutures in the proper position at first or by the suture of one side cutting through, leaving the attachment more on the other side of the tendon than intended. His method has the advantage of one suture, or practically one, and of being placed previous to the severing of the tendon. The counter tension on tendon and globe by the sutures inserted is rather unique, and I should think very serviceable and convenient.

Dr. G. C. Savage, Nashville, Tenn.: I want to congratulate Dr. Hulen on his suture and condemn him on cutting the muscle. If he had not cut the muscle, but pulled it forward and tied his sutures, they would have held it in contact with the ball and it would have been a beautiful Lagleize flat advancement operation. I think if Dr. Hulen will turn to Norris and Oliver, or turn to a smaller book of mine, he will find the Lagleize operation described and then he will cease to cut that muscle in two. I did this operation ten or fifteen years ago without cutting the muscle, the thought occurring to me just as I was about to cut the tendon, and seeing the beautiful results following claimed the operation for myself, but I found that Lagleize had done it before, and I immediately gave credit for the operation to Lagleize. In connection with this operation, and any other stitch operation, let me advise you to tie your suture over a Price suture plate. It will not excite any additional irritation and it will be the easiest suture removed that you have ever seen.

Dr. F. C. Todd, Minneapolis: While I believe in the tucking operation and prefer not to cut off the loop of tendon, and believe that can be best attained by an instrument which one may have under his control, yet it is evident to me that there are some valuable features in this operation, as, for instance, the vertical suture. The objection which I wish to point out to this operation is the fact that the pull is along the fibers of the tendon so that the degree of effect produced cannot be thoroughly controlled. The fibers of the tendon going toward the cornea, the thread then to be pulled in the direction of the tendon fillers, will cause the thread to cut through and it may give way entirely. I would suggest that this objection can be overcome by inserting a suture in the edge of the tendon in the manner I do with my tucking operation, using a catgut suture which will be absorbed, so that when tied at right angles to the direction of the tendon fibers it will bind them together and then the silk sutures may be inserted back of them and thereby the silk sutures will pull against the already tied catgut sutures and so will not cut or slip. Thus there will be an anchorage against which to pull, and a more definite and permanent control over the tendon.

Dr. Mark D. Stevenson, Akron, O.: There are many things about this operation that commend it. The simple use of traction sutures is unique and helpful. The needle and doubled thread must be forced through each suture canal in every case so there is no reason why both threads should not be used. If the thread is oiled before use by some sterile ointment, it will slip through the canal more easily, will absorb and carry less fluid into the canal, with less likelihood of infection, and the two threads will occupy the canal space better than one. If one of the threads should break, the other can be used to fix the muscle on the globe. In a paper, "A Secure, Looped, Single-Stitched Advancement Suture, with a Consideration of Scleral Anchorage" *(Ophthalmology*, July, 1906*)*, I described the best position of scleral anchorages. The sclera is thickest quite near the cornea and at the muscle insertion, being thinner between these two points. I described in a paper before this Section in 1905 the single vertical suture canal, where the pull of the suture is against the side of the whole canal and not merely against the shelving anterior edge of a horizontal canal which is much more likely to be cut through by the suture. The scleral suture should be made strong enough, but anyone who will make these sutures through pigs' eyes will be alarmed to find how many of them go entirely through the sclera. I think Dr. Hulen's hold on the muscle tendon inadequate, except where low degrees are to be corrected. It could be improved by a loop on upper and lower threads of tendon, the cross part of the loop assisting in grasping the tendon fibers so as not to cut between them so readily, and also to support the traction parts of the suture.

Dr. John Green, Jr., St. Louis: If I may be permitted to speak on the basis of a single experience with this operation, I may say that the operation appeals to me as being decidedly simple. The scleral suture can be easily and exactly inserted as the tendon insertion, which serves as a landmark, has not been interfered with. In the second place, the placing of the tendon suture is equally easy. The most gratifying feature of the operation is when you ask the assistant to draw on the traction sutures, you will be surprised and gratified at the ease and exactness with which the tendon is brought into position. Finally, after the operation is completed, the apparent traumatism is hardly any greater than after a simple tenotomy.

Dr. E. C. Ellett, Memphis: It has been demonstrated recently that in these operations where the tendon of the muscle is advanced you do not advance the true attachment of the muscle at all. The muscle attaches itself solidly to the globe from the point of the new attachment clear back to where it was cut from the sclera and the true new point of attachment is the old point of attachment. You have merely shortened the muscle. If that is true, and it has been demonstrated anatomically to be true, it seems to me a great deal would be gained by abandoning this scleral anchorage altogether and fastening the stump of the cut muscle at the site of the original insertion, which is very much easier to do.

Dr. Vard H. Hulen, Houston, Tex.: If Dr. Savage has time to read my paper, he will find that I have described the procedure to which he refers, and in some cases of heterophoria, where a large effect is not necessary, I might recommend this looping operation; you can easily do it by placing and tying the sutures without severing the tendon. I have used this plan and like it in just these cases.

Dr. Todd, I think, will find that by putting the tendon suture in vertically and, as I have described, the loop under the tendon will give efficient friction clear across, and there is no tendency for the suture to cut out.

Dr. Ellett may be correct when he says the tendon is not ultimately advanced beyond its original insertion. But we know the action of these operations is principally mechanical, and certainly by introducing the suture far forward in the sclera you can get a much greater effect than by putting it in at the site of the original insertion of the tendon, and we may thus get the desired result with less sacrifice of the tendon itself. Wherever you have great disturbance of the tissues underlying the tendon, or of the tendon itself, you may get adhesions and thus fail to advance ultimately the insertion. One of the great advantages of my plan is that of putting the sutures in the sclera before severing the tendon, as you know where the insertion is and can judge the correct site for the new insertion, and not get it too high or too low.

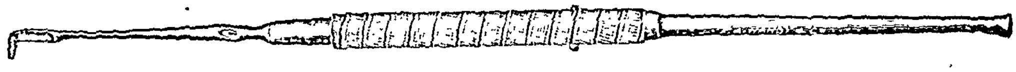
I am much gratified that Dr. Green has tried this operation in one case since the appearance of the presessional reprints and can here testify to the great usefulness of the traction sutures. If the sclera is thin, the scleral suture *must not be placed too deeply, and to broaden the loop the suture may be entered twice, thus increasing the distance between the entrance and exit of this suture, so that the tendon will not be bunched when the fixing sutures are tied.*

A NEW CARTILAGE KNIFE FOR USE IN THE SUBMUCOUS RESECTION OF THE NASAL SEPTUM

ALFRED N. MURRAY, M.D.,
CHICAGO

To obviate the danger of perforating the opposite mucous membrane when making the initial incision in the cartilage in the submucous resection of the nasal septum, I have devised a simple blunt knife not unlike a number of other knives used in various fields of surgery, which reduces the chances of this accident to a minimum. While it is true that in experienced hands the sharp knife can be used with comparative safety, many who do this operation are not so skilled, and not infrequently produce perforations. Even in the case of the skilled operator, however, the use of this protected knife will greatly simplify the making of the initial incision in the cartilage. A description of the manner of using the instrument will demonstrate its simple principle and the ease with which it is adapted to its purpose.

Having reached the stage in the operation where the cartilage is to be incised, the incision is begun in the ordinary way with the sharp knife, the finger being placed in the opposite nostril to feel the point of the knife as it penetrates the cartilage. The incision, however, is made only 2 or 3 mm. long, or just sufficient to admit the dissector point of the blunt knife. When this is in position the knife is moved at will along the line of incision, dissecting the mucous membrane of the opposite side in its course and incising the cartilage at the same time. Thus the dissection of the opposite mucous membrane is also already begun when the incision is completed.



A new cartilage knife for use in the submucous resection of the nasal septum.

Some little difficulty may be experienced in first introducing the knife, but I have found that by placing the dissector point at right angles to the line of incision and working it under the mucous membrane of the opposite side, one soon has ample space in which to direct it properly and start the incision.

The knife is, of course, not adapted to all cases, or to work far back in the nose, its especial use being to make the primary incision in the cartilage.

100 State Street.

PRELIMINARY REPORT OF WORK ON CLOT-CULTURE

LOYAL A. SHOUDY, A.B., M.D.
Senior Resident Pathologist to the German Hospital
PHILADELPHIA

After reading the work done by Gaffky, Durham, Gruber and others with the *Bacillus typhosus,* noting the dilutions to a greater or less degree, for the purpose of lessening the inhibitive power of the serum, the idea came to me that the blood-clot was the essential part in the growing of organisms from the blood. Accordingly after doing the Widal agglutination test in a case that was not a clear enteric, I was prompted, after the removal of the serum from the Widal tube, to put the small remaining clot in a tube of bouillon. This I incubated for twelve hours and then examined by means of the hanging drop. I noted many organisms morphologically characteristic of the *Bacillus typhosus.* From this tube I inoculated a tube of litmus milk, one of agar slant, one of potato and a stab of glucose agar and incubated over night. On examination the following morning I noted that the growths were all typical of typhoid.

Next day I did the same in five other cases with like results. The Widals had been collected in the ordinary manner and I was not surprised to find growths of *Staphylococcus albus.* I plated my growths and again inoculated, using litmus milk, agar, glucose, potato, lactose and litmus lactose with the same results. Later I tried the agglutination test on my recovered organisms. They clumped and I was satisfied that I had recovered the *Bacillus typhosus* from the clot.

I was at once struck with the simplicity of the method and have since tried it in sixteen other cases with equally good results, each time obtaining a growth of the *Bacillus typhosus.*

In all but three cases the Widal was positive. In two of these three cases a positive reaction was obtained later but not to date in the third. Another feature of this third case is the fact that a blood-culture taken in the usual manner gave a negative result, being sterile. In a number of these cases I obtained the organisms before a positive Widal reaction was secured.

My technic to date is to sterilize my Widal tubes and blood-sticker, wash the finger or ear carefully (in the usual way, with mercuric chlorid, etc.) collect the blood; seal the tube, shake the blood to the opposite end, place in the centrifuge for fifteen minutes or until the serum is separated, break open the tube and by means of a sterile pipette remove the serum, remove the clot and place it in a tube of bouillon, incubate twelve to twenty-four hours and then plate, inoculate, and identify the organisms. My series of twenty-one cases extends over a period of two months and with positive results in each case.

I am sure that with care one can secure negative results or sterile cultures, where the blood contains no organisms, because I have done so in three cases as a check to my work in the laboratory.

In three cases I have made a hanging drop of normal salt solution and inoculated this from the clot and noted organisms morphologically characteristic of the typhoid bacillus; and later cultures proved them to be such. I have also tried collecting the blood in a 0.2 per cent. solution of sodium citrate to prevent the clotting and compared results.

On this I will report later. At the present time I am working with cases of general infection other than typhoid with the idea that the clot is the essential part for culture work. I feel that this method of culture by clot, however obtained, will simplify blood work in general and typhoid in particular.

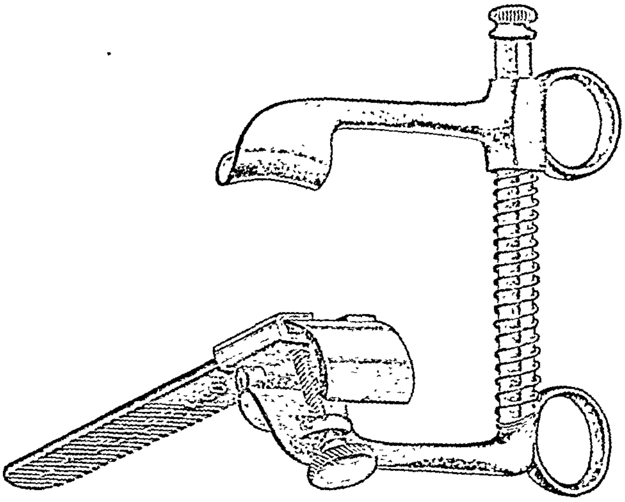
This is but a preliminary report of the work now being done in the laboratory of which I will give a complete account in the near future.

A NEW COMBINATION MOUTH-GAG AND TONGUE-DEPRESSOR

F. H. BRANDT, M.D.
BOISE, IDAHO

Because it is almost impossible for an assistant to hold the tongue down properly in operations on the throat, under general anesthesia, without being in the way of the operator, I have designed an instrument, of simple construction and easy to adjust, which keeps the tongue out of the field of operation. The objection to similar instruments now on the market lies in the impossibility of removing the tongue-depressor without taking out the mouth-gag also. This is important, as conditions may arise during an operation which necessitate the immediate removal of the tongue-depressor.

The mouth-gag is the well-known Stubbs-Murdock model, to which I have attached the tongue-depressor, working on a swivel joint, which accommodates it to the base of the tongue, so hard for an assistant to hold down. As seen in the illustration a set-screw is fastened to the lower teeth-plate which controls and fastens the tongue-blade at any angle desired, and it is not necessary, in order to remove the tongue-depressor, to touch or unfasten the set-screw. The main feature of the instrument lies in the readiness and ease in which it can be introduced, adjusted to the base of the tongue and instantly removed.



A new combination mouth-gag and tongue-depressor.

THREAD WORMS IN THE APPENDIX

REPORT OF TWO ADDITIONAL CASES

J. M. ALLEN, M.D.
ST. JOHNSBURY, VT.

A few months since I reported the finding of thread worms in the appendix of a young girl. I now wish to add two additional cases of this somewhat rare condition.

Case 1.—Dec. 11, 1909, while operating on a boy aged 4 for a right inguinal hernia the appendix was found in the hernial sac, and was, of course, removed. On opening it there were found eleven thread worms.

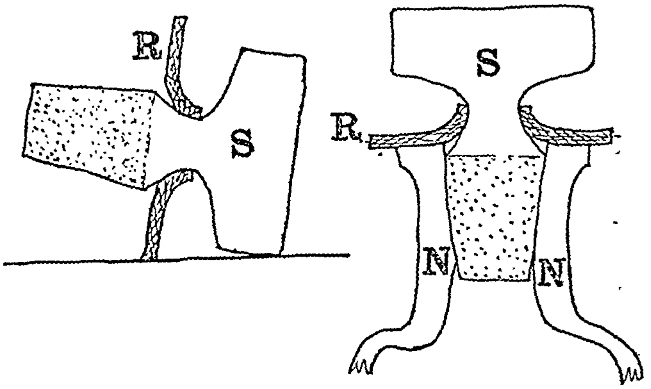
Case 2.—Jan. 15, 1910, a girl aged 14 was presented for operation by Dr. F. E. Farmer of this place. The patient gave a history of one sharp attack of appendicitis over a year ago, and several attacks of colicky pain at intervals since that time. The last attack occurred January 12. There was no rise in temperature nor increase in pulse rate but there was great tenderness and pain in the region of the appendix. The appendix was removed January 15 and appeared to be full of fecal matter. On opening it there were found a ball of thread worms in the distal end and several single worms along the walls. There were no gross changes in the walls, and it seems reasonable to suppose that the movement of the worms excited spasm of the appendix and the pain was caused in this way.

All of these cases were seen by my assistants, Drs. W. B. Fitch and F. E. Farmer.

A SIMPLE AND INEXPENSIVE DEVICE TO PREVENT THE CONTAMINATION OF STERILE SOLUTIONS

A. G. BETTMAN, M.D.
Demonstrator of Histology, Medical Department, University of Oregon
PORTLAND, OREGON

Sterile solutions are often put into carefully sterilized bottles, closed by sterile stoppers and then set away. By the time the solutions are to be used dust has collected on the lips of the bottles and in pouring out the contents the germs are washed off and the solutions are no longer sterile. Wiping the top of the bottle, at best, removes only part of the germs and drops the rest of them directly into the bottle. Then the stopper is laid down on some unsterile surface and, loaded with microorganisms, is returned to the bottle.



Sectional view of glass stopper with protective rubber collar attached. S, stopper; N, neck of bottle; R, rubber collar.

To obviate this I have devised a simple inexpensive device, so simple, in fact, that I hesitate to present it. From a piece of heavy rubber sheeting (that from a hot-water bottle answers best) cut a round piece, of such size that when placed over the mouth of the bottle the edges project somewhat. Then cut a small round hole in the center, of such size that the rubber is with some difficulty slipped over the stopper. When the stopper is now returned to the bottle the rubber covers the lip and extends a little beyond, thereby keeping off all dust. Evaporation of the bottle contents is also prevented.

A third advantage, and probably the greatest, is that the stopper may be laid down without the inner end resting on the unsterile table, as the rubber acts much the same as the rest on a carving knife. This device may be used for stoppers of any size, shape or material by varying the size of the rubber and of the hole. For an ordinary eight ounce perfume bottle I cut the rubber a little larger than a silver dollar and the center hole not over ¼ in. in diameter.

I believe that many stitch abscesses might be prevented by using this device on suture containers and on dressing jars; druggists could adapt it to advantage.

392½ Sixth Street.

EXCESSIVELY HIGH TEMPERATURE IN A CASE OF INCIPIENT PULMONARY TUBERCULOSIS

O. H. BROWN, M.D.
ST. LOUIS.

The patient in this case was in the Missouri State Sanatorium for from twelve to fourteen months. One morning, a year or more ago, the nurse brought a thermometer to me complaining that she could not tell where it registered. She said that this happened every time she shook the mercury down and returned the thermometer to the mouth of this particular patient. The nurse also complained that the patient had bitten the bulb off from one or two thermometers. On examining, I found that the mercury extended nearly to the free end of the thermometer. I was aware that a patient sometimes plays a trick on the nurse by holding the mercury bulb in the steam-jet of the radiator, so I took the thermometer and placed it in the patient's mouth and stayed by her side. Soon the patient complained that the thermometer bulb was broken in her mouth. So it was, but the mercury also filled the tube nearly to its free end, and she had not bitten the glass.

Thinking that it might have been the fault of the thermometer, I tried another, and with each the mouth temperature registered 109 to 110, or higher. The patient's rectal and arm temperatures were both normal. This observation was made on several different days. On one occasion only, and this several days after the high mouth temperature ceased, the patient's rectal temperature registered about 108.

On seeking for an explanation for this singular manifestation, it was found that the patient had several small sublingual ulcers. No bacteriologic study of these was made. She also had some decayed teeth and inflamed gums. The patient was of a hysteric type and frequently had pains and other symptoms that were unexplained except as hysteric manifestations.

I regret that I was not able at that time to make a bacteriologic examination of the ulcers, as these were possibly the cause of the phenomenon. The high rectal temperature was perhaps caused by an ulcer of the rectum against which the bulb of the thermometer came in contact.

Humboldt Building.

PROLONGED USE OF EPINEPHRIN IN ASTHMA

J. N. HALL, M.D.
DENVER

Patient.—A physician of unusual enterprise and intelligence, aged 35, an athlete weighing over 200 pounds, contracted whooping cough in May, 1903, and during convalescence from this disease began to suffer for the first time with bronchial asthma. During the summer nasal polypi were removed from the region of the middle turbinate, with much aggravation of the asthma. During the next year he was treated by prominent physicians in two of the largest American cities and in Liverpool and London, more polypi being removed in the latter city. The asthma became progressively worse so that the patient came to Denver a complete invalid in October, 1904. He had at this time no free interval of over an hour, and slept in the upright posture.

Physical Examination.—This showed pronounced general asthmatic wheezing. There was marked dulness over the upper sternal region and the voice and respiratory sounds on the right were decreased in intensity. I believe that these phenomena were due to enlargement of the tracheo-bronchial glands.

Treatment and Course of Disease.—I recommended a trial of a 1-to-1000 epinephin solution hypodermatically. The first dose of 8 minims in half a minute gave the first absolute relief from the asthma and the terrible mental depression from which the patient suffered. The tenacious mucous secretion was loosened and expectorated at once. The relief lasted two or three hours, and the patient thereafter took the remedy whenever symptoms of the return of the paroxysms appeared. During the past five and a half years he has taken about 200 ounces of the solution, at times taking from 40 to 60 doses hypodermatically in a twenty-four-hour period, generally 5 or 6 minims at a dose. He progressively lost weight until he stood at 114 pounds in January, 1910. Without any change in treatment or other circumstances which might explain it, he suddenly began to improve, and the asthma entirely disappeared in six or eight weeks. He weighs today 185 pounds and is apparently entirely well. He has, of course, stopped the epinephrin.

Attention is called to this case on account of the phenomenal amount of epinephrin used. The reports from clinical laboratories led me to fear serious damage to the arteries and heart from the long-continued use of it. The blood-pressure is normal (135 mm.), heart and arteries entirely negative, urine free of albumin, and general condition absolutely good, so far as careful examination can demonstrate. Dr. Henry Sewall confirmed these findings, and Dr. E. W. Stevens examined the retinal arteries and reported them negative as to the presence of arteriosclerosis. The dulness in the upper sternal region has disappeared. No emphysema is present.

The patient has had three attacks of suddenly developing, intense distress with emesis, headache, involuntary evacuations and profuse perspiration, and tense wiry pulse after taking his medicine. He believes that they were due to too rapid absorption of the drug, presumably from its entrance into a vein. He concludes that the remedy is best given diluted with normal saline solution and placed so superficially in the tissues as to prevent too rapid absorption, with the purpose of avoiding the frightful attacks described.

The patient exhibited himself at our local society meeting and attracted so much attention that he has given me permission to report his case.

Therapeutics

HEXAMETHYLENAMIN

Hexamethylenamin, U. S. P., is a solid crystalline substance obtained from formaldehyd. It is very soluble in water and soluble in ten parts of alcohol.

This most useful drug has been known for a number of years, and was made official in the Pharmacopeia of 1900, but its efficient activity as an antiseptic in the fluids of the body, combined with its comparative harmlessness, has not been thoroughly recognized until recently. It has been freely used as a bowel antiseptic and a genito-urinary antiseptic, but it had not been demonstrated until within the last few years how efficient it was as an antiseptic and germicide in the gall-bladder. It has been clinically positively demonstrated that it is valuable in acute infections of the gall-bladder, and efficient in preventing the development of, and the propagation of, typhoid bacilli and other bacilli in the gall-bladder. Consequently, when used during or after typhoid fever it is efficient in preventing these bacilli from remaining in the parts of the body where they prefer to harbor and perpetuate their kind, viz., the gall-bladder and the pelvis or other parts of the kidneys. Being excreted also through and into the biliary passages with the bile it acts as an antiseptic for all of the biliary ducts. When any operation on the gall-bladder is decided on, unless the operation is one of emergency, a course of several days of hexamethylenamin treatment should be inaugurated as tending to render the gall-bladder more or less antiseptic. At least it is possible with this drug enormously to diminish the bacteria in this infected region.

Crowe (*Archives internationales de Pharmacodynamie et de Therapie,* 1908, xviii, 315) showed by experiments on dogs that hexamethylenamin was excreted not only by the liver ducts into the gall ducts, but also by the gall-bladder itself and also by the pancreas. After exposure of the duodenum an opening was made about 3 cm. below the pylorus, and small catheters inserted into the orifices of the pancreatic and common bile ducts. The bile and pancreatic juice were collected after the intravenous injection of secretin. The experiments showed that hexamethylenamin is excreted in both the bile and pancreatic juice. Examination of the bile in the gall-bladder in experiments in which the cystic duct had previously been ligatured, showed that the substance is excreted directly by the gall-bladder as well as by the hepatic cells. The milk and saliva of these dogs also gave the test.

In view of the findings in animals it was determined to make a bacteriologic and chemical study of the bile obtained from patients with biliary fistula before and after giving hexamethylenamin. The number of colonies of organisms obtained from one loop of bile in all cases was rapidly reduced to zero. In one specimen before giving the drug, 150,000 colonies were obtained from one loop of the bile, while after giving the drug for a few days, the bile was absolutely sterile. The organisms found were chiefly typhi, coli and pyocyaneus. Typhoid germs are particularly susceptible to hexamethylenamin. The dose necessary to obtain the desired effect quickly in the gall-bladder was found to be 5 gm. (75 grains) a day. Usually one to two doses are sufficient to render the bile absolutely sterile.

Crowe also demonstrated what has since been repeatedly noted, viz., that hexamethylenamin is excreted into the cerebrospinal and synovial fluids. One instance was that of a boy aged 13 who had symptoms suggesting a cerebellar tumor. A decompression operation was done and the wound closed. A plaster dressing was applied, and on removing it twelve days later, a cerebrospinal fistula was found in the upper part of the incision. The discharging fluid contained a few pus cells, bacteria, and shreds of necrotic tissue. Meningitis was feared. Thinking that hexamethylenamin might possibly be excreted by this route also, the boy was given a 0.66 gm. (10 grain) dose of the drug and five or six hours later some of the discharging fluid was collected and tested. A distinct test was obtained and the dose was increased to 2.0 gm. (30 grains) a day. Three weeks later, under this treatment the fistula had closed entirely and the temperature was practically normal.

The second case was one of acute gonorrheal arthritis. The knee joint was swollen, very hot and tender. The patient was given 1.0 gm. (15 grains) of hexamethylenamin. Nine hours later the joint was aspirated and about 100 c.c. of pus withdrawn. The chemical test showed the presence of hexamethylenamin in considerable amount. The dose was increased to 5.3 gm. (80 grains) a day, and four days later cultures from the joints showed a marked decrease in the number of organisms present. A third aspiration, ten days after admission into the hospital, showed that the organism had completely disappeared, but some periarticular infiltration and some limitation of motion still remained.

In no case were ill effects noticed after the administration of hexamethylenamin, other than painful *micturition after prolonged administration.* This entirely and rapidly disappeared on withholding the drug.

At the recent annual meeting of the American Therapeutic Society, held in Washington, May 5, 6 and 7, Dr. Wilfred N. Barton, of Washington, D. C., related a number of cases of otitis media in which the suppuration rapidly healed and became sterile under the administration of hexamethylenamin.

It therefore seems demonstrated that in bowel infection, typhoid fever, and especially post-typhoid, in gall-bladder inflammations, in cerebrospinal infection, and in middle ear infection, it is scientific and logical to administer hexamethlyenamin whatever other treatment is inaugurated or deemed advisable. It has, now, long been recognized that this drug is the most valuable urinary antiseptic that can be administered, and it is, therefore, useful when the urine contains bacteria of any kind; in inflammations and suppurations of the pelvis of the kidney, in cystitis, and in urethritis.

From the observations of Crowe it would certainly seem advisable to administer this drug in gonorrheal arthritis, pneumococcic arthritis, and perhaps in tubercular arthritis. We are not aware that it has yet been shown to be of value in tubercular disease, whether of the joints, kidneys, or lungs. It certainly is worthy of investigation in this disease.

The dose of hexamethylenamin varies from 0.25 to 1.0 gram (4 to 15 grains). The size of the dose should be determined by its frequency. Probably 0.50 gram (7½ grains) is always a sufficient dose, and this dose could be administered two or three times in twenty-four hours, or 0.25 or 0.30 gram four times in twenty-four hours. It is quickly absorbed and quickly appears in the urine. Occasionally it causes slight irritation to the kidneys, and rarely has seemed to be the cause of a slight hematuria or hemoglobinuria. This, however, has occurred so rarely as to be considered instances of *peculiar idiosyncrasy.* It is, perhaps, however, unwise to administer this drug, except in much smaller amounts, when there is an acute nephritis. The writer of this editorial has used this drug in many instances for weeks or even months, and in one instance at least for two years in daily doses of the size above described without any symptoms or signs of undesired action. It can, therefore, be presumed that the drug is harmless to the digestion, nutrition, circulation, blood-making organs and kidneys.

This drug will act satisfactorily in preventing phosphaturia when all other drugs, diets and treatments have failed, and hence, can be used to prevent undesired alkalinity of the urine.

Healthy Diphtheria Bacillus-Carriers.—Lemoine inoculated tubes of coagulated serum with mucus from the pharynx of 232 individuals including 86 entirely healthy, 90 with measles and 56 with other affections. He found that the diphtheria bacilli developed in 22 per cent. of the healthy, in 37 per cent. of the measles patients and in from 30 to 47 per cent. of the others. Notwithstanding these positive bacteriologic findings no cases of diphtheria developed in the environment of any of the persons tested. Contagion occurred, however, from others sheltering the bacteria who had not entirely recovered from a preceding attack of diphtheria, some sequel still persisting. On the whole his experiences show, he declares, that no danger need be apprehended from the really healthy diphtheria bacillus carrier, but that persisting sequels of the disease seem to maintain the virulence of the germs. The development of coryza or sore throat in persons in the environment of a diphtheria patient also calls for prompt bacteriologic examination. It is scarcely necessary, he thinks, to examine the persons in the environment not in direct contact with the patient if they remain free from clinical symptoms under close supervision.—*Bull. Soc. Méd. des Hôp.*, March 19, 1910, page 160.

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[*For other information see second page following reading matter*]

SATURDAY, JULY 9, 1910

HEMORRHAGE AND TRANSFUSION

The study of hemorrhage and transfusion of blood and various associated changes and conditions, as now being carried out in surgically equipped research laboratories, is producing results of much interest. The work is so intensely practical that it merits the attention of the pure clinician as well as of those who devote their energies solely to scientific pursuits.

In summing up the results already accomplished in this comparatively new field of work we find much of value. The early workers of recent times, among whom are Carrel, Guthrie, Crile and others, demonstrated the feasibility of vascular anastomosis and vascular suture. They have shown that the technic of direct transfusion from one person to another is easily mastered, can be quickly performed, and opens up a large field for future therapeutic achievements. We are already assured that direct transfusion is a life-saving measure in case of accidental hemorrhage. It is of value in the prevention and treatment of shock. It probably is of considerable aid in tuberculosis and some other chronic diseases.

Control experiments, performed with the object of comparing the value of blood and saline transfusions, tend to show that the latter has enjoyed undue prominence as a therapeutic measure; for example, in the treatment of accidental hemorrhage it rarely is a life-saving measure, whereas blood-transfusion certainly is. Indications are that the use of blood will also in a large measure supersede the use of saline transfusion in illuminating-gas poisoning.

Study of the blood elements has revealed a diagnostic point of aid in differentiating acute hemorrhage from shock; in the former, the red cells and hemoglobin are decreased, while the white blood cells undergo a distinct leucocytosis; in shock these changes do not occur.

The present-day workers are expending their energies in various directions. The injection of blood-serum for uncontrollable hemorrhage promises to yield good results. The logic of the universally accepted calcium-chlorid therapy in hemorrhagic conditions is being investigated, and in the due course of time we may hope to know, as a result of carefully planned and well-controlled work, whether such treatment is truly of value in selected cases or is to be discredited and given up.

Boycott and Douglas are doing interesting work in following out the changes which transfused blood undergoes and in studying the effects of transfusions on the organism of the recipient. They find the anatomic and histologic structure of transfused rabbits not essentially altered. The spleen is three times the normal size, the liver and kidneys slightly increased. Eosinophilic granules in the phagocytic cells of the mesenteric glands and spleen show an activity greater than normal. The organism disposes of transfused blood, they conclude, in the same way as normal animals dispose of their own "effete" red blood corpuscles. It is taken out of the circulation by phagocytic cells, chiefly endothelial in nature, in the spleen, bone-marrow and hemolymph-glands and then broken up, first into recognizable fragments, later into residue, part of which is seen in iron-containing pigment.

The work of Crile in clinical investigation of transfusion, of Carrel and Guthrie in vascular anastomosis and transplantation of organs, in conjunction with that of Boycott and Douglas and others who are concerned with the histopathologic and chemical features of the subject, promises to yield rich returns in the near future.

THE MAXIMUM OF HUMAN LONGEVITY

To continue the subject we discussed last week, it would be a matter of interest if the extreme age limit of human beings could be definitely ascertained. Instances of extreme longevity, reaching 132 years, have been reported, but according to the mortality report of the Census Bureau of Vital Statistics as prepared by Dr. Cressy L. Wilbur, most of these reports when investigated are found to be unreliable; not intentionally untruthful in many instances, perhaps, but untrustworthy because based on unverified report. This is also found to be the case in Europe, as reported by Thoms and Young. It is believed that the age of 100 has been attained, but, as Dr. Wilbur suggests, "it is perhaps doubtful whether, as shown by incontrovertible evidence, the age of 110 has ever been reached or exceeded." If it could be determined by exact observation that human beings had lived 140 or 130, or even 110 years, that fact would establish the capability of the human organism to keep up those metabolic changes which are essential to life for a period much greater than the present ascertained average or Scriptural allotment of years. Thus it would furnish a mark toward which superior eugenics and real hygienic living could aim, and the extreme limit might be attained more frequently and the average of longevity raised.

There are various theories in relation to longevity. The idea has been advanced that the human machine, in any particular instance, or in a family, is wound up to run about so long, and, barring accident, the individual life will attain approximately that length.

Another idea, advanced by Nascher,[1] is that if the period of development is not forced, and maturity not reached too soon, the period of maturity is longer and the rate of decline into old age slower and a greater age is thus attained. In the period of youth and maturity the protoplasm of the cell is more abundant: in old age the nuclei of the cells are larger in proportion to the cell-contents and there is a greater and more inflexible differentiation of the cells. With an improvement in the inherited vitality of the cell by improved eugenics, a better understanding and attainment of the correct nutritional equilibrium, and the preservation of the status by correct hygiene, the maximum span of life may be reached more frequently and the general average lengthened. What that maximum is at present can be determined only by the adoption of efficient methods of obtaining vital statistics.

In Maine and Massachusetts details in regard to the deaths of reputed centenarians are collected and the facts authenticated. As Wilbur says, physicians should be interested in such cases, and together with registration officials, should endeavor to ascertain the truth about them. Complete and reliable vital statistics would establish the present maximum of longevity, a fact of real scientific as well as popular interest.

THE BRITISH AWAKENING

"Great is truth; and it will prevail"—somewhat slowly, however. For some years The Journal has been exposing the fraud and deception connected with the exploitation of proprietary remedies and at last its campaign appears to be overcoming even the inertia of British conservatism. In a recent issue, the *British Medical Journal*[2] editorially protests against antikamnia and gives the results of The Journal's analysis published five years ago. No mention is made of the fact that the Association Laboratory demonstrated that after the Food and Drugs Act went into effect in this country the antikamnia people substituted acetphenetidin for acetanilid in the product sold in America while they retained the older and cheaper drug in the antikamnia on the British market.

The immediate cause of editorial indignation seems to be that now the British public is being circularized with the "Do-you-suffer-pain?" letters, and our conservative over-seas contemporary is constrained to object, mildly it is true, but nevertheless to object. It goes even further and deplores the fact that physicians have written testimonials for this nostrum. Of course, as the *British Medical Journal* says: "They are, it is true, American doctors; but are British practitioners guiltless in the matter?" Unfortunately they are not. On this side of the Atlantic, in fact, the most widely circulated testimonial of the antikamnia people is one credited to "Wm. Hy. Griffith, M.D., L.R.C.P., Edin.; L.R.C.S., Edin.; L.F.P.S., Glas." A gentleman answering to this somewhat elongated cognomen appears in the British Medical Directory as living in the "rare old city" of Chester, England. We also find among testimonial-givers a "Dr. Arthur Bailey Francis (Queen's College), Belfast, Ireland"; "Dr. John Arthur Diggle (Med. Ref. Globe Accident Assur. Soc., of London, England)," and "Dr. M. G. Dundas," who eulogizes antikamnia in *Medical Reprints*—whatever that may be—London, England. We read too, in one of the latest American advertisements, that "among those who have paid high tributes to their [antikamnia tablets] value and who occupy positions of great eminence, may be mentioned Dr. J. Acheson Wilkin and Dr. R. J. Blackham, practitioners of London."

Doubtless there are very many more. Yet it is probable that more American physicians than British have written panegyrics on this "headache mixture"; but that is natural. There are more American physicians than British and, besides, the nostrum, we are ashamed to admit, is an American one. As a class, however, American physicians have long since ceased to be fooled on the subject of antikamnia. The advertisements of this nostrum which appear in high-class medical journals indicate that as much can hardly be said for our British confrères. We find that up to as late as last month such publications as the *Lancet, Practitioner, Medical Press and Circular, Dublin Journal of Medical Science, Glasgow Medical Journal* and the *Journal of Obstetrics and Gynecology of the British Empire* were still carrying the advertisements of this dangerous nostrum.

We hope that this is the opening wedge. Antikamnia was one of the first "ethical proprietaries" which the Council on Pharmacy and Chemistry exposed through The Journal; since it was first shown up a host of others just as bad, if not as impudent, have been dealt with in these pages. May the *British Medical Journal*—which has already purged its pages of these frauds—take up this unsavory brood *seriatim* and it will not not be long before medical journals of the better class across the water will have as clean advertising pages as American journals of the same class already have.

REPORTS ON MEDICAL EDUCATION AND THEIR RESULTS

Two thorough investigations of the medical schools of the United States and Canada have been completed in the last few months, one by the Council on Medical Education of the American Medical Association, extending through a period of six years; the other by the Carnegie Foundation for the Advancement of Teaching, extending through the last two years.

In its report the Council on Medical Education presented a list of the medical colleges graded in three classes: Class A, including those considered acceptable; Class B, including those needing certain improvements, and Class C, those which require a general reorganization to make them acceptable.[1]

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[1] New York Med. Jour., April 17, 1909.

[2] See comment of our London Correspondent, in London Letter, this issue.

As a result of its investigation, the Carnegie Foundation published an exhaustive report on its findings exposing defects wherever found. Hypocrisy, misstatements of fact in college announcements or otherwise, and makeshifts in the enforcement of standards received particular attention, and even some regarded as of high standard did not escape criticism. Numerous cries of "unfair," "unwarranted," "lack of knowledge." and even of "prejudice" have been raised, which show that the shoe fits pretty tightly in certain quarters. There is an adage that it is the truth that hurts. It is so in this instance. The report may be subject to criticism in some matters of detail, but those who are competent to judge—those who know the actual facts—realize that, in general, the conditions set forth in the Carnegie report are true and indisputable.

It is not surprising that one college, the St. Louis College of Physicians and Surgeons, has filed a suit for damages against the officers of the Foundation and the editor of The Journal of the American Medical Association. Possibly that was the only answer the school could make to the charges brought against it, judging from an abundance of information in the possession of the Council on Medical Education. We fear that the college will not bring the suit to trial; but, if it does the public will be made acquainted with the facts —a highly desirable result. Many colleges have taken the better course, have frankly admitted their shortcomings, are endeavoring to make the needed improvements, and planning to make the best of a bad situation.

Now that the investigations have been completed and the facts have been clearly set forth, it is to be hoped that the splendid reconstruction already begun may be carried on with increased vigor. As set forth in the report of the Council on Medical Education, medical teaching in this country should be developed as a part of our educational system, coordinating and not conflicting with the other departments of that system. Let there be a strict enforcement of a four-year high-school education as the minimum preliminary requirement; let there be well-trained, full-time salaried teachers in the laboratory branches; let there be better equipped laboratories, better clinical facilities, more bedside clinics, better courses in laboratory diagnosis, and finally, let there be at least as thorough methods of teaching in our medical schools as prevail in our standard universities and colleges of liberal arts.

Undoubtedly the faculties of the majority of colleges will attempt to develop stronger and better institutions in place of those now existing. This is evident from the reports of additions to the endowments of medical education, of the erection of new buildings, of voted increases of preliminary standards and of the eager search for better laboratory instructors. In justice to the colleges it should be said that many of these extensive improvements were planned long before the results of the investigations referred to were made public. After all, the improvements which are inspired by an actual desire to teach medicine properly are the ones which count the most. Other colleges, desiring to make improvements, heartily welcomed the investigations, since the changes which could be made to the best advantage would thereby be indicated. May this improvement and development go on until medical education in the United States is second to that of no other country!

Current Comment

A NEW PATRIOTISM

Those who have been engaged for several years in keeping toll of the awful cost in life and limb through the old methods of celebrating the Fourth of July, and who have been persistently advocating more quiet, orderly and uplifting methods, have been looking forward to this year's celebration, more hopeful than in any previous year. During the last two years, and during the last year especially, an enormous amount of comment has appeared in the newspapers and magazines, calculated to educate the public to a more sensible method of celebrating this national holiday. And from the newspaper reports from all over the country, the educational work has counted, the hoped-for change has come, and the newer method of celebration has been adopted. If the change in method of celebration of Independence Day has been as great all over the country as in Chicago, then indeed has a new era begun, and a new patriotism developed. Instead of the senseless booming and snapping of bombs and firecrackers, not only on the Fourth of July itself but for several days preceding, quiet reigned supreme. Instead of whiling away the time in thoughtless, aimless efforts to create a noise, the people assembled by the hundreds of thousands to witness parades, intelligently planned and of marked educational value; they looked on displays of flags and witnessed the marching of soldiers to the rhythm of inspiring music; they saw floats representing the signing of the Declaration of Independence, the birth of the American flag, the inauguration of the nation's first president and other historic incidents of which the nation, the state, and the city are justly proud. They spent the rest of the day at picnics, at band concerts, in the parks, in visiting friends and relatives—and even here the main topics of conversation were doubtless influenced by the inspiring incidents of the morning. Of more vital importance, however, was the fact that, for the vast majority of homes, the day was peacefully ended without any awful aftermath of sorrow and suffering. And the wonder is, why the old methods were tolerated so long as they were; and why the celebration of the Fourth of July had not long since been recognized as a great opportunity to develop a genuine patriotism. Such celebrations as that witnessed in Chicago, and undoubtedly in a large number of other cities, cannot fail to create a stronger national spirit, a genuine love for our country, a pride in her past achievements, and a desire to uphold her future—and surely this is patriotism.

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[1] This classification was published in The Journal June 18, p. 2061.

UPHOLDING THE VITAL STATISTICS LAW

An Ohio physician was convicted of violating the vital statistics law by persistently refusing to report births. He was not a member of a county society, but in appealing the case to the Supreme Court he solicited financial aid from the societies. On this account the matter came before the House of Delegates of the state society. That body wisely expressed its disapproval of this violation of the law, and also of the action of those county societies which had extended aid to the physician. In effect the resolution adopted by the Ohio House of Delegates says that the vital statistics law of Ohio should be upheld by physicians and strict compliance with it insisted on. We believe this is right. A physician who refuses to comply with this law does not appreciate his responsibility or his obligation to the state. The attitude of physicians in such matters should be carefully considered. It is an axiom in the legal profession that every lawyer who has been admitted to the bar is in fact an officer of the state. In a similar way every physician who has been licensed to practice medicine in accordance with the laws of the state is in fact a health officer of that state. The state has granted him certain privileges, in addition to placing its seal of approval on him in the form of a license to practice medicine. In return for this he is under moral, and in some states legal, obligations to render a fair and proper return by promptly performing the duties his position requires. The importance of vital statistics is known better to physicians than to others, and they should be the last to resist in any way the enforcement of these laws. Hence the attitude of physicans who refuse to make returns of births or who demand the payment of a small fee by the state cannot be commended.

MEDICAL SECTS

Sectarianism in medicine has long been with us; yet, singularly enough, its literature is exceedingly limited, aside from that of a controversial and partisan character. Apparently no one has thought it worth while to inquire why medical sectarianism exists, or why each new cult, no matter how absurd its tenets from a scientific point of view, always succeeds in attracting a following. The superficial explanation that "the public likes to be humbugged" has been repeated, *ad libitum*, although it is not true; and even if it were true, it is no explanation. Mr. Flexner, in his report to the Carnegie Foundation, on American medical schools, devotes a chapter to a dispassionate review of the subject, summarizes the present conditions, and prophesies for the future. This chapter is one of the most important in the book, and is deserving of careful perusal on the part of every thoughtful physician. It is for this reason that we have copied the greater part of the chapter in this issue of The Journal.[1] Mr. Flexner's explanation of sectarianism and its underlying causes constitutes the first attempt that has been made to account psychologically and philosophically for the peculiar fact that, historically speaking, medicine, using the term in its broadest sense, has given rise to more sects than any other form of human activity—except religion. The philosopher, the psychologist, the economist, even the latter-day sociologist and anthropologist, who has considered all fields of investigation as his by right—all have overlooked the enormous influence of medicine and medical sects on our social organism. It would be interesting to speculate on what might have been the differences in our present social, economic and educational systems and conditions, had sectarianism in medicine never existed. Only by a thorough understanding and an accurate appreciation of the causes underlying sectarianism in medicine, can we hope to evolve a permanent system of rational, legal regulation to take the place of the existing illogical, inequitable and constantly changing patchwork of compromise and legislative stupidity, which makes up most of our existing system of state regulation. Flexner's contribution will help to make such an understanding possible.

FOURTH OF JULY ACCIDENTS

Although, as stated above, new methods of celebrating the Fourth of July seem to have largely superseded the noisy, unenlightened methods heretofore in vogue, we must not be too confident of the future. Possibly nothing has been so effective in bringing about this new order of things as The Journal's annual presentation of the net results of the older methods. Furthermore it will be particularly interesting this year to show what effect these new methods have had in diminishing the numbers of killed and injured. The Journal will therefore gather statistics of Fourth of July casualties, as in previous years, and again asks the cooperation of its readers. It is hoped that each reader of The Journal will report any accidents that come to his knowledge. Complete details are particularly desired regarding all cases resulting in tetanus or death. Special blanks for such reports will be sent on application.

Medical News

CALIFORNIA

Health Conditions in the State.—That health conditions are improved is shown from the records of the State Board of Health. In 1909, 30.985 persons died as against 31,278 in 1908, and 31,095 in 1907; births and marriages show an increase over the previous year. The births reported in 1909 numbered 30.882; in 1908, 28,077, and in 1907, 24,647. The marriages during 1909 numbered 22,917; in 1908, 21,734, and in 1907, 23,000.

Care for the Insane.—The State Lunacy Commission at Sacramento has raised the salaries of the superintendents of the five state asylums and of the superintendent of the Sonoma Home for Feeble-minded Children. Dr. Hatch, secretary of the commission, states that commitments to the State Hospital for the Insane have been large this year, due to the increasing immigration and the use of alcohol. The state board is endeavoring to secure an amendment to the present law governing the commitment of the insane, and the legislature will be asked to create a fund for the establishment of a special building at one of the asylums for the care and treatment of inebriates and drug habitués.

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[1] Department of Medical Economics, p. 147.

CONNECTICUT

Personal.—Dr. Robert S. Clark, New Haven, has been appointed intern in the House of Mercy Hospital, Springfield, Mass.

New Dean for Yale Medical School.—Dr. George E. Blumer, professor of theory and practice of medicine, is to be the new dean of the Yale Medical School, to succeed Dr. Herbert E. Smith, who has been dean for twenty-five years.——A silver loving cup was presented to Dr. Smith at the Yale Medical Alumni Association banquet, June 20, and he responded to the toast, "Twenty-five Years of the Yale Medical School." The toastmaster of the evening was Dr. Edward R. Baldwin, Saranac Lake, N. Y.——The ninety-seventh anniversary of the founding of Yale Medical School was held in the College Street Hall, June 20. The annual address in medicine was delivered by Dr. William T. Councilman, professor of pathology in Harvard University.

DISTRICT OF COLUMBIA

New Doctors for Army.—Forty-five members of a class of fifty physicians who have taken the course of instruction at the Army Medical School, Washington, D. C., successfully completed their work, June 1, and were awarded commissions as first lieutenants in the medical reserve corps of the army by the secretary of war. Surgeon-General George H. Torney presided and the principal address was made by Dr. Victor C. Vaughan, Ann Arbor, Mich.

ILLINOIS

New Sanitarium.—Contract has been let for the new Memorial Sanitarium at Charleston, to be known as the Mack A. Montgomery Memorial Sanitarium.

License Revoked.—At the meeting of the State Board of Health, June 24, the board revoked the license of Dr. David Apfelbaum, Chicago, for advertising under a fictitious name.

State Civil Service Examination.—Secretary Joseph Mason, of the State Civil Service Commission, has announced the successful candidates in the promotional examination for physicians in the various state institutions. There were ten successful candidates for promotion to physician and twelve to assistant physician.

Fraudulent Diplomas.—On June 24, Judge Landis, in the United States District Court, sentenced Dr. Alexander Chittick, Chicago, to serve sixty days in the county jail for the fraudulent use of the mails in connection with the sale of diplomas from the Chicago Medical University and the Crescent Medical University. Dr. Chittick's license was revoked by the State Board for this offense May 24.

State Board Rules Against Night Schools.—The Illinois State Board of Health adopted a ruling, June 21, that it would not consider in good standing any medical college which after June 30, 1911, offers, during the evening or at night, all or the major portion of the clinical and hospital instruction or of the didactic work such as is commonly embraced in the third and fourth years of the medical curriculum.

Personal.—Drs. William Plumer and Frank Robb have been appointed township physicians at Farmington.——Dr. William E. Miller, Columbus, was appointed physician for Adams County, June 15.——Dr. Augustus R. Reder has been appointed city health officer at Aurora.——The late Dr. Jacob H. Huber, Pana, has bequeathed $50,000 to his home city for benevolent purposes.

Reorganization of Antituberculosis Association.—The Illinois State Association for the Prevention of Tuberculosis, said to have been practically out of existence since 1906, was reorganized at a meeting in Chicago June 25, under the call of the Chicago Tuberculosis Institute. An effort will be made to arouse an interest in the formation of county and other local organizations, and an appropriation will be asked from the state legislature for a traveling tuberculosis exhibit, and for a law creating a state sanatorium. Gov. Charles S. Deneen was elected honorary president; Dr. William A. Evans, Chicago, president; vice-presidents, Drs. Tully O. Hardesty, Jacksonville, and George T. Palmer, Springfield; secretary, Frank E. Wing, Chicago; treasurer, David R. Forgan, Chicago; medical members of the central council, Dr. J. W. Pettit, Ottawa; Drs. Theodore B. Sachs, Ethan A. Gray and George W. Webster, Chicago, and Dr. St. Elmo M. Sala, Rock Island.

Chicago

Free Tuberculosis Hospital.—The Chicago Fresh Air Hospital, 7528 Northwestern avenue, exclusively for tuberculous patients, opened July 1. Treatment will be free. The hospital is equipped with two open air sleeping porches and indoor accommodation for more advanced cases. The grounds comprise twenty acres.

Endowment for Medical Research.—By the will of the late O. S. A. Sprague, the Sprague Memorial Institute for Medical Research will be established with an endowment of $1,000,000. The first step in organization has been the securing of a charter, July 1, by the trustees, A. B. Bartlett, Charles L. Hutchinson and Albert A. Sprague.

Personal.—Dr. Alice Hamilton, a resident of Hull House, has been granted the honorary degree of M. A. by the University of Michigan.——Dr. W. H. Holmes has been appointed bacteriologist to the State Board of Health to succeed Dr. N. E. Wayson, resigned.——Dr. N. E. Wayson has been appointed a physician in St. Francis Hospital, Wichita, Kan.——Dr. Robert H. Babcock, Chicago, has been given the degree of LL.D. by the University of Michigan.

IOWA

Bierring Goes to Drake.—It is reported that Dr. Walter L. Bierring, former professor of the State University of Iowa College of Medicine, will move to Des Moines, where he has accepted the chair of medicine in the reorganized College of Medicine of Drake University. He will be provided with two salaried assistants, in clinical diagnosis and in pharmacology.

Medical Society Meetings.—Jones County Medical Society held its regular semi-annual meeting in Anamosa June 9 and elected the following officers: President, Dr. Aram G. Hejinian, Anamosa; vice-president, Dr. Aileen B. Corbit, Wyoming; secretary-treasurer, Dr. John E. King, Anamosa, and delegate, Dr. Thomas M. Redmond, Monticello.——The Des Moines Valley Medical Association met at Ottumwa, June 23, and elected the following officers: President, Dr. Lawrence W. Littig, Iowa City; vice-presidents, Drs. Lewis A. Rodgers, Oskaloosa, and Ernest C. McClure, Bussey; secretary-treasurer, Dr. Fred W. Bowles, Ottumwa, and censors, Drs. Smith A. Spilman, Ottumwa; Jerry A. Replogle, Udell, and Henry C. Young, Bloomfield.

KANSAS

Personal.—Dr. H. A. Dykes, Lebanon, has been elected secretary of the Kansas Board of Medical Registration and Examination to succeed Dr. F. B. Hatfield.——Dr. Albert S. Ross, Sabetha, the newly appointed member of the board, was elected president.——Dr. Oscar R. Troje, Kansas City, has entered government service in the Canal Zone.

Meeting of State Health Officers.—At the meeting of the Association of Public Health Officers, held at Topeka, June 15, Dr. Clay E. Coburn, Kansas City, was elected president to succeed Dr. Charles H. Lerrigo, Topeka. Dr. Benjamin J. Alexander, Hiawatha, was elected vice-president. The following were reelected members of the advisory board: Dr. F. O. Marvin, sanitary adviser, Lawrence; Dr. William C. Hoad, sanitary and civil engineer, Lawrence; Dr. E. H. S. Bailey, chemist, State University, Lawrence; Dr. J. T. Willard, Agricultural College, Manhattan; Dr. L. E. Sayree, State University, Lawrence; Dr. Robert S. Magee, Topeka; Dr. Sara E. Greenfield, Topeka; Dr. W. J. V. Deacon, statistician, Topeka, and Dr. Samuel C. Emley, lecturer, Lawrence. The association declared that measles, infantile paralysis, typhoid fever and ophthalmia neonatorum are henceforth to be reportable diseases. Ex-Senator J. E. Brewer, Abilene, appeared before the board with a copy of resolution adopted by the Merchants Association to the effect that when the rules of the board operate in restraint of trade and to no benefit to the consumer they should be dispensed with. The next meeting will be held in Hutchinson in September.

KENTUCKY

New Hospital Located.—The new city hospital for Louisville is to be located on the present site at Floyd and Chestnut Streets.

Society Meetings.—The Southwestern Kentucky Medical Society met at Paducah recently and elected the following officers: President, Dr. John Q. Taylor, Paducah; vice-presidents. Drs. George W. Payne, Bardwell, and Quintus L. Shelton, Paducah; secretary, Dr. E. C. Reynolds, Paducah; treasurer, Dr. Vernon Blythe, Paducah, and historian, Dr. Robert T. Hocker, Arlington.——Under the auspices of the Lincoln County Medical Society, the local board of health at Goshen held a public meeting, at which health questions were discussed in a popular way by various physicians of the county society.

Personal.—The State Board of Control June 18 elected Dr. Henry P. Sights, Paducah, superintendent of the Western Asylum for the Insane, Hopkinsville, to succeed Dr. Thomas W. Gardiner, who has become a member of the board of control. Dr. Sights is the present health officer of Paducah, and was for three years first assistant physician at Hopkinsville.——Dr. Llewellyn P. Spears, Louisville, has been made jail physician to fill the vacancy made by the resignation of Dr. Samuel H. Garvin.——Dr. S. J. Smock has been elected health officer at Glasgow to fill the unexpired term of the late Dr. Richard E. Garnett.——Dr. Henry Enos Tuley and family, Louisville, have gone to Europe to remain until September.

MARYLAND

Personal.—Dr. Marshall West has been appointed health officer of the First District, Baltimore county, vice Dr. Arthur H. Mann, resigned, on account of ill-health.

School to Be Enlarged.—It is announced that the recent legislative appropriation of $150,000 for the Maryland Training School for the Feeble-Minded, will enable that institution to care for 200 additional patients.

Bequest of Hahnemann Portrait.—The late Dr. Alfred Wanstall, homeopathic physician, bequeathed a bust and portrait of Hahnemann and his medical books to the Maryland State Homeopathic Society, and all his medical instruments and drugs to the Homeopathic Hospital.

Monument to Dr. Horace H. Hayden.—A monument was unveiled at Windsor, Vt., his birthplace, June 25, in honor of Horace H. Hayden, M.D., the "Father of Dental Science." He came to Baltimore in 1800, joined the Medical and Chirurgical Faculty in 1810, took part in the organization of the Maryland Academy of Sciences, delivered the first course of dental lectures in the University of Maryland in 1837, founded the first dental college and society in 1840 and the first dental journal in 1841. He was an uncommon genius, an indefatigable student and investigator, particularly in geology and botany. He collected a valuable cabinet of minerals, now at Roanoke College, Va. He was twice honored with the M.D. degree, by Jefferson College and by the University of Maryland. He served as surgeon with the troops defending Baltimore in 1814. The Baltimore College was represented at Windsor by Dr. B. Holly Smith, the dean, who delivered the address.

State Society Notes.—The Medical and Chirurgical Faculty has assumed financial management of its *Bulletin,* which was begun two years ago by Dr. Henry O. Reik, who conducted it with much credit. The present staff are Dr. Emil Novak, editor; Dr. Joseph A. Chatard, associate editor; Dr. Arthur P. Herring, business manager. The *Bulletin* recommends that there be a medical man on the staff of every daily newspaper to exercise oversight in medical matters. This is necessitated by the constantly increasing importance of medical and health news and the lamentable frequency with which such news is incorrectly presented or distorted.——The semi-annual meeting of the state society will be held at Annapolis about the middle of September.——Drs. J. McPherson Scott, Hagerstown, and Henry M. Fitzhugh, Westminster, were elected medical examiners for Maryland. The Medical and Chirurgical Faculty will hereafter elect its officers in general meeting, the nominations to be made in the House of Delegates.

Baltimore

Personal.—Dr. Charles W. Mitchell has sailed for Europe.——Dr. Franklin P. Mall has gone to München, Germany.——Dr. J. Burr Piggott has assumed charge of University Hospital as superintendent, vice Robert P. Bay, resigned.——Dr. William W. Russell left for Chester, Nova Scotia, June 29.——Dr. C. Urban Smith has resigned as professor of medicine and diseases of the stomach at the Maryland Medical College.

Food and Drug Law.—The State Board of Health, on July 1, took up the enforcement of the new pure food bill, which became effective then. The legislature appropriated $15,000 for expenses. The act prohibits the sale of any drug or food that is adulterated in any way, unless the fact is stated on a label showing the percentage of adulteration. Although the act became effective July 1, it does not apply to foods and drugs purchased by the dealers prior to the passage of the act, until Jan. 1, 1911, thus giving dealers ample opportunity to dispose of all goods which do not come up to the requirements of the law. It is believed that the druggists welcome the law.

NEW YORK

Personal.—Health Commissioner Fronczak, Buffalo, left June 26 for Europe, where he will study open air schools and attend the conference on school hygiene in Paris.——Dr. John Parmenter has been elected president of the health board at Geneva.——Dr. and Mrs. John H. Collins, Schenectady, have sailed for Europe.

Bills Signed by the Governor.—Governor Hughes has signed bills permitting the establishment of a board of inebriety for New York City; authorizing the State Lunacy Commission to contract for the completion of the Mohansic State Hospital for the Insane at a cost of $2,000,000 and making a preliminary survey appropriation of $100,000; and placing the care of the insane during temporary commitment with the health officer. He vetoed bills providing for the reconstruction of the Long Island State Hospital, and for expenditures for the Kings Park State Hospital and the Central Islip State Hospital.

Would Ease Restrictions on Milk.—Modifications in the health board regulations as to milk are being urged by the Sanitary Milk Dealers' Association which was originated by Dr. Lederle. Among the provisions which it is desired to remove is one requiring that barns be swept in the morning before the milking is done. It is claimed that this requirement is practically a dead letter and that sweeping just before milking increases rather than diminishes the number of germs in the air that may gain access to the milk. The association also wants to sell pasteurized milk from cans like raw milk, and they want the time limit in which pasteurized milk must be disposed of increased from twenty-four to thirty-six or forty-eight hours.

New York City

White Plague Exhibit in Italian Quarter.—The charity organizations opened their tuberculosis exhibit June 20 in Grand street. The Italian consul-general made an address. The exhibit will be kept open for a month.

Floating Hospital Begins Season.—The Helen C. Juillard floating hospital for sick children, made her initial trip from Manhattan Island to New Dorp, S. I., July 5. This vessel carries children sick enough to require skilled treatment to the Seaside Hospital at New Dorp.

Personal.—Yale University has conferred the degree of doctor of science on Dr. Simon Flexner of the Rockefeller Institute of Medical Research.——Dr. A. Norton Brockway was stricken with apoplexy while attending the commencement exercises of Hamilton College.——Dr. Francis E. Butler has sailed for Europe.

New Medical Building for Fordham.—Fordham University School of Medicine has secured $100,000 for the erection of a new medical building on the university campus, consisting of three stories and a basement, 110 by 150 feet. It will be used largely as a dispensary, all the first floor and a part of the second being divided into rooms for clinics and laboratories for microscopic work. The building also provides for two lecture halls, a students' common room, etc.

New Hospital Dedicated.—The Peoples' Hospital at 203 Second avenue has recently been dedicated. Meyer Grenbaum made the address and stated that the funds had been raised entirely by the Jews. He stated that there were at the present time in New York city 1,250,000 Jews and of that number less than 5,000 could be cared for by the Jewish hospitals of the city. He upbraided his race for not having fulfilled the contract that they made with the Colony of New Amsterdam by which they agreed to care for their own sick and destitute.

PENNSYLVANIA

Personal.—Dr. Harry B. Adams, Media, has been appointed chief house surgeon at the Metropolitan Hospital, New York.——Dr. William S. Vanneman, formerly of Pennsgrove, has come home after having spent twenty years as a medical missionary in Persia.

Dickson City Epidemic Halted.—Within the past few days no new cases of smallpox have been reported in Dickson City. The physicians from the State Department of Health, the Dickson City Board of Health and the seven physicians employed by the borough were kept busy vaccinating the residents of the stricken city, and are now confident that the epidemic is well under control.

School Medical Inspection.—The Wilkes-Barre school board has adopted Dr. S. P. Longstreet's plan for a medical examination of all pupils twice a year. Dr. James T. Williams has been appointed chief medical inspector and his salary fixed at $1,000 a year. Pupils will be examined at the beginning of each term and at the spring vacation. Teachers will also be instructed how to determine physical defects in pupils.

Philadelphia

Addition to Hahnemann Hospital.—Ground was broken June 25 for the erection of a four-story $40,000 addition to the Hahnemann Hospital at Fifteenth and Race streets.

Infant Mortality Campaign.—Active work was begun July by the new child health division of the Department of Public Health and Charities, under the direction of S. W. Newmayer, who is in charge of the infant mortality work of the department. Eight visiting and one supervising nurse began an active campaign to reduce the death-rate among children, particularly in the congested sections.

Measles Delays Panama Liner.—Development of a case of measles on board halted the Panama liner *Alliance*, July 1, when fifty miles down the coast on the way to the isthmus. The steamer returned to quarantine, and the patient was removed to the hospital on Hoffman Island with another child which was exposed to the infection. The steamer resumed her way the following day.

TEXAS

Site for Quarantine Home.—The War Department has ceded a portion of its reservation on Pelican Spit at Galevston to the government health department for a site for the new quarantine station. About $200,000 is at present available for the work.

Society Meeting.—At a meeting of the Taylor County Medical Society held on June 27, in Abilene, Dr. Charles M. Rosser, Dallas, delivered an address on "Cancer of the Uterus." A dinner was given in honor of Dr. Rosser at the Hotel Grace. Covers were laid for thirty.

College Commencement.—At the commencement exercises of the Medical Department of the University of Texas, Galveston, May 31, medical degrees were conferred on a class of fifty-seven by President Mezes. The principal address was delivered by Dr. Ashley W. Fly, Galveston, a member of the board of regents.

Personal.—Dr. George M. Decherd has been appointed health inspector at Austin.——Dr. Edward Scott has been appointed county health officer at Bay City to succeed Dr. Bat Smith, who has resigned.——Dr. John F. Y. Paine, professor of obstetrics and gynecology in the medical department of the University of Texas, was presented with a loving cup by the senior class, June 1.

Fraudulent Instructor.—The El Paso County Medical Association warns physicians to look out for a man speaking broken English, weighing about one hundred and eighty pounds, and pretending to give courses in bacteriology and pathology to physicians. It is said that he knows but little of the subjects, and at El Paso he forgot to pay his hotel bill. The society wishes to have him located.

GENERAL NEWS

New Chief for Leper Colony.—Dr. James H. Biggar, former chief of the Culion leper colony in the Philippines, has resigned from the service and will take up the practice of medicine in Texas. He has been succeeded by Dr. Paul Clements, medical inspector of the bureau of health.

Annual Conference of American Hospital Association.—The twelfth annual conference of the American Hospital Association will be held at the Planters' Hotel, St. Louis, September 20, 21, 22 and 23. An extensive and interesting program has been arranged for the meeting.

Epidemic of Smallpox in Mexico.—An epidemic of smallpox is reported to have been raging for several months in the district of Ozumba, Northern Chihuahua, Mexico, and an appeal has been made for medical officers and soldiers to enforce quarantine laws. It is reported that over six hundred deaths have occurred in six months.

Appointments and Promotions at Rockefeller Institute.—The directors of the Rockefeller Institute for Medical Research announce the following promotions and appointments for the year 1910-1911: Laboratory Staff—Jacques Loeb, Head of Department of Experimental Biology. Associates, W. A. Jacobs, biologic chemistry; D. R. Joseph, physiology and pharmacology; Peyton Rous, pathology; B. T. Terry, protozoology; D. D. Van Slyke, biologic chemistry. Assistants, M. T. Burrows, experimental surgery; P. F. Clark, bacteriology; I. S. Kleiner, physiology and pharmacology; Hardolph Wasteneys, experimental biology. Fellows, F. J. Birchard, biologic chemistry; F. B. La Forge, biologic chemistry. Scholar, J. Bronfenbrenner, pathology. Hospital Staff—Resident physician, G. Canby Robinson. Interns, George Draper, H. K. Marks, F. W. Peabody, H. F. Swift. General manager, Jerome D. Greene.

International Congress of Medical Electrology and Radiology.—The fifth international congress for discussion of these branches of the medical sciences is to meet at Barcelona, Spain, September 13 to 18. Among the topics to be discussed are the unification of methods of electrodiagnosis, electricity as an antiphlogistic agent, the biologic action of high-frequency currents, the therapeutic action of the uninterrupted current and the electrolytic introduction of medicinal ions, the use of [illegible] in abdominal diagnosis and autoconduction. [illegible] committee in charge of the congress includes among its twenty-five members C. Beck of New York and S. Leduc of Nantes. Dr. C. L. Leonard, 112 South Twentieth street, Philadelphia, Pa., is the representative for this country. He is to present an article on the progress realized in Roentgen diagnosis to date.

National Confederation of State Medical Examining and Licensing Boards.—At the twentieth annual meeting of this confederation held in St. Louis, June 6, the following officers and committees were elected: President, Dr. J. C. Guernsey, Philadelphia; vice-presidents, Drs. James A. Egan, Springfield, Ill., and Charles A. Tuttle, New Haven, Conn.; secretary-treasurer, Dr. George H. Matson, Columbus, Ohio; assistant secretary, Dr. Darlington Snyder, Columbus, Ohio; executive council, Drs. N. R. Coleman, Columbus, Ohio; Edwin B. Harvey, Boston, James A. Duncan, Toledo, Ohio, A. H. Hamel, St. Louis, D. P. Maddux, Chester, Pa.; committee on clinical instruction, Drs. Henry Beates, Philadelphia, Charles A. Tuttle, New Haven, Conn., Fred C. Zapffe, Chicago, Maurice J. Lewi, New York; L. F. Bennett, Beloit, Wis.; committee on materia medica, Drs. M. G. Motter, Washington, D. C., J. C. Gurnsey, Philadelphia, George MacDonald, Washington, D. C.; committee on lay publicity, Drs. Darlington Snyder, Columbus, Ohio, Frederic Singer, Pueblo, Colo., Fred C. Zapffe, Chicago.

MANILA LETTER

(From Our Regular Correspondent)

Manila, May 31, 1910.

Medical School and Hospital

In medical circles in Manila considerable interest is shown at present in the Philippine Medical School and the new Manila General Hospital which is nearing completion. Much pride in the possession of such handsome and modern structures as those of the hospital and medical school is felt by both the American and Filipino physicians. It is expected that the building of the medical school will be completed and ready for occupancy in time for the opening of the fourth annual session, June 6. These buildings are modern serviceable types, of reenforced concrete. Especial attention has been given to sanitation, light and fresh air and the buildings are well adapted to a tropical climate. During 1908 the Philippine Commission appropriated the sum of 780,000 pesos for the construction of the hospital, which is planned on the pavilion system. At the same time there was set aside the sum of 250,000 pesos for a new medical school laboratory building to be erected on the same campus as the Bureau of Science and the hospital. These buildings are now nearing completion.

The Philippine Medical School

The Philippine Medical School is an outgrowth of the educational system instituted throughout the Philippine Islands by the Philippine Commission and it is also a natural development of the Bureau of Science and the Bureau of Health. The movement looking toward the establishment of such a school had its origin at the second annual meeting of the Philippine Islands Medical Association in 1905, at which meeting the proceedings demonstrated the great need of supplying physicians to the people of the islands. It was shown from statistics that there is an average of one physician to 21,209 of the population of the Archipelago, and that at present there is only one physician to each 430 square miles of territory. In this connection it is to be remembered that the population of the Philippine Islands is greater than that of Canada and that the density of population per square mile is equal to that of Indiana, and, deducting New York City, nearly as great as that of New York state. In view of these amazing facts one is inclined to ask whether a great proportion of the population, having done without reputable physicians so long, will take to improved medical attention or will patronize the modern physician. In the case of the Filipino physician this, to some extent, may be answered by the citation of the twelve months' career of a native graduate, a former scholarship student of the Philippine Medical School. After taking some hospital work he returned a little over a year ago to his native province and started practice in a town of a few thousand inhabitants, which up to that time had been without a registered physician. On the day of his arrival a man was shot through the stomach. The new doctor was sent for, merely, however, to give relief to the man before his expected death. The new doctor at his first serious case became scared out of his wits. However, with the moral support and the assistance of an American scout, ether was administered, rather at the protest of the relatives, and the wounds sewed up and dressed. By careful nursing the doctor was able to bring the man through, and, as a result, at once became a hero of the town. Last week one of the leading druggists of Manila received an order from this doctor for drugs, office fixtures and surgical supplies amounting to nearly $1,000, and he paid cash.

Scholarships

In order that the medical school may serve as wide a field as possible, the Philippine Commission has established "for each province in the Philippine Islands one free scholarship in the Philippine Medical School." This scholarship is competitive and entitles the successful competitor, who must be at least a high school graduate, to "the expenses of transportation to Manila, board, subsistence and maintenance while in Manila attending the Philippine Medical School not exceeding 500 pesos per annum each." In accordance with act No. 1632: "(d) Each scholarship student who shall graduate from the medical school with the degree of doctor of medicine, unless he shall accept appointment under the government of the Philippine Islands or one of its branches, shall return to his province and practice medicine and surgery therein for a period at least equal to the time of his scholarship tuition, unless permission to do otherwise be granted by the Secretary of the Interior. Failure to comply with the terms of this section shall be deemed sufficient grounds for revocation of his license to practice medicine and surgery in the Philippine Islands in the same manner as are other offenses described by section 8 of act numbered 310."

Entrance Examinations

During the past week entrance examinations of the Philippine Medical School have been held. These examinations are made necessary because the schools throughout the provinces are not of a uniform grade and the different colleges are too often deficient in their science instruction. There were 34 applicants.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, June 25, 1910.

Annual Meeting of the British Medical Association

The seventy-eighth annual meeting of the British Medical Association, which will be held in the University of London July 22 to 29, promises to be one of the most important and successful functions of the association, both from the scientific and social standpoint. It is many years since the annual meeting was held in the metropolis, which contains a population equal to that of some European countries and is the center of medical as of all other activities in the country. The scientific business will not commence until July 26, when President-Elect H. T. Butlin will deliver his address. Among the social functions is a *conversazione* at the Guildhall given by the lord mayor and corporation.

Tetanus and the Motor Car

The statistics of recent years show a great increase of the number of deaths from tetanus in spite of the use of antitetanic serum and increasing knowledge of the mode of invasion of the disease. In the years 1889 to 1900 the average number of deaths in England and Wales from tetanus was between 30 and 40. In 1900 the number rose to 66, but fell to 57 in 1901. In 1902 an extraordinary increase occurred, the number reaching 201, and this high level has since been surpassed. From 1903 to 1908 the figures are respectively 257, 257, 248, 254, 226 and 180. The *British Medical Journal* suggests that the cause for this extraordinary increase is the motor car. It might at first be thought that the great development of motor traffic of recent years would have an opposite effect, for the concomitant reduction of the number of horses in the streets and roads would diminish the amount of animal excreta lying on them. But simultaneously the distribution of the excreta which remains has been greatly increased by the dust-raising powers of the motor car and the germs have been spread far and wide. To this greater distribution it is suggested that the increase of cases of tetanus is due. The slight fall in 1908 may be due to the fact that the supply of horses is rapidly diminishing in recent years, now that it has been proved that mechanical traction is commercially superior to horse traction.

Typhoid-Carriers in India

The annual report of the sanitary commissioner of India for 1908, which has just been published, shows that while inquiries to trace the source of outbreaks of typhoid fever in the army to water, food, etc., usually failed to yield definite results, the disease was traced to typhoid-carriers in many stations. At Wellington the search was carried out with great thoroughness by making a bacteriologic examination of the excreta of all convalescents, thrice weekly; one man was found to have chronic typhoid bacilluria 13 months after his attack. At Sialkot the investigations revealed the grave danger which may arise from the employment of the native cooks in the kitchens. A servant in the officers' mess was found to have typhoid bacilluria and two cooks in one of the squadrons of a cavalry regiment to have a similar condition. As results of these discoveries all natives applying for the post of cook were examined and another carrier was detected. At other stations the blood was examined for the Widal reaction, which was found in some cooks. Though this does not prove that the subject is a typhoid-carrier, it was considered sufficient grounds for dismissal. Evidence is also recorded of the danger of contracting the disease from patients during the acute stage. This danger is recognized at all stations, but despite careful precautions seven orderlies became infected.

Antikamnia

After a long career of tolerance in the advertising pages of most of the medical journals of this country, including, I regret to say, some of the best, Antikamnia has at last come under editorial censure. The proprietors of this nostrum have managed with some success to appeal to the profession as vendors of an "ethical" preparation and at the same time to the public with the usual wiles of the nostrum humbug. Even the revelations published by THE JOURNAL seem to have had no effect on our editors. One journal at the very time it was publishing a series of articles denouncing and exposing quackery of all kinds and criticising with due severity the lay press for inserting fraudulent advertisements of nostrums had a running advertisement of Antikamnia. The exploiters of this preparation have gone a step too far. They have sent to women through the mail samples and pamphlets, with a letter beginning: "Do you ever suffer from pain? If so please try enclosed sample of Antikamnia tablets. Always prompt and reliable." Among the conditions for which it is claimed to be a sovereign remedy are the menopause, miscarriage pains, painful menstruation, "after debauch." It is especially recommended for Americans in London who are the subjects of "brain fag!" The *British Medical Journal* has received a shower of complaints from doctors whose wives and women patients have received these objectionable pamphlets. It reprints the analysis of this nostrum made by the Council on Pharmacy and Chemistry of the American Medical Association and published in the "Propaganda for Reform in Proprietary Medicines." Your contemporary regrets that several of the testimonials quoted appear to be from physicians and points out that one of the greatest obstacles to reform in the trade in proprietary medicines is that physicians can be found to testify to their virtues. [This subject is commented on editorially in this issue of THE JOURNAL.]

Medical Treatment of School Children in London

A conflict has been in progress for some time between the London County Council and the British Medical Association on the medical treatment of the children who attend the council's schools (the greater part of the children of London). By a recent act the medical inspection of school children was established. A large number of children were found suffering from various diseases—adenoids, otorrhea, enlarged tonsils, impetigo, ringworm, errors of refraction, deafness, etc.—which interfered with their education. It was then realized that it was of no use to make provision for medical inspection if medical treatment did not follow. Unwilling to incur the large expense which this would involve the council made arrangements with several of the London hospitals to treat the children on condition of receiving donations. To this the British Medical Association has objected that it was wrong in principle for the state to endeavor to get new services carried out on its behalf by trading on the charitable institutions of the country. A further objection is that the scheme provides only for the treatment of about a fourth of the children who require it. The association suggests that the only satisfactory method is for the council to make provision for the treatment of the children by local physicians at suitable local centers. Again, the council has made no provision whatever for the treatment of the children's teeth. As shown in previous letters, dental caries is prevalent to an appalling extent; at the age of 6 nearly 100 per cent. of children suffer from it and in each child an average of 9 teeth are affected. When the permanent teeth appear there is only slight improvement; at the age of 14 less than 15 per cent. of children are free from caries, and this percentage gradually falls until not more than 5 per cent. of adults have a perfect set. No provision has been made for the treatment of children's teeth for the simple reason that the dental hospitals have declined to undertake it and have informed the council that the only method is to establish school-clinics for the purpose.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, June 24, 1910.

Vital Statistics of France for 1909

The *Journal Officiel* has just published the annual vital statistics of France for 1909. The number of births was very small; in fact, only 769,969 live births were recorded, in place of 791.712 in 1908, a diminution of 21,743. The excess of births over deaths was only 13,424, being less by 33.017 than in 1908, when the excess was 46,441. At least a third of this diminution in the excess of births was due to the fact that there were 11,274 more deaths in 1909 than in 1908, the remaining two-thirds being due to the actual diminution of the number of births. In the first semester of 1909 the number of deaths was greater than the number of births by about 28,000; but a fortunate compensation occurred in the course of the second semester, in which there was an excess of 41,524 births, thanks to the lowering of the mortality. As for the share of the various departments in the French birth-rate, it is stated that the only regions where the birth-rate is gaining over the death-rate are the regions of the north, Brittany, the eastern frontiers, the Limousin and Corsica. On the other hand, in the departments of the Garonne and the Rhône valleys each year there are more deaths than births recorded, so that depopulation increases from year to year. In the Department of the Seine there were recorded last year 73,466 births and 74,576 deaths, an excess of 1,110 deaths. While the population of France remains, so to speak, stationary, that of Germany is increasing annually by more than 900.000, that of Austria by more than 300.000, that of England by more than 400.000, that of Italy by more than 400,000. Doubtless the diminution in the birth-rate is far from being a phenomenon peculiar to France, but in the other countries this diminution has not yet attained the same proportions; and, moreover, thanks to their previous headway, these other states preserve a large excess of births. While the average annual excess of births over deaths for each ten thousand inhabitants, or the increase in the population does not exceed 18 for the last five-year period in France, it amounts to 106 in Italy, 113 in Austria, 121 in England, 149 in Germany and 155 in the Netherlands. In other words, the annual increase in population is six to ten times more rapid in the other countries than in France. The number of marriages has also diminished in France. In 1909 there were registered only 307,951 marriages, while the preceding year there were 315,928 and in 1907 314,756. The number of divorces has continued to increase since 1900. There have been, in fact, 12.874 divorces during the last year, against 11,515 in 1908, an increase of 1,359 divorces. There were only 10.938 in 1907, 10,573 in 1906 and only 7,157 in 1900.

Improved Vaccination Against Typhoid

On June 21 Dr. H. Vincent, professor at the school of military hygiene at Val-de-Grâce, read before the Académie de Médecine an interesting communication on vaccination against typhoid fever. The vaccine prepared from dead bacilli by Wright and Leishman, while efficacious, arouses local or general reactions which are often painful. Dr. Vincent, after numerous attempts, prepared a vaccine by autolysis of the living bacilli in physiologic salt solution cleared by centrifugation and sterilized by agitation and mixed with ether. The ether is easily disposed of by evaporation at 37 C. for a few minutes. The vaccine is not heated and no antiseptic is added to it. It is perfectly limpid and is easily absorbed. Used on animals, this vaccine has shown high protective qualities. To immunize human beings Dr. Vincent has used a polyvalent vaccine prepared with eight strains of typhoid and paratyphoid bacilli. This vaccine, which was injected into 13 adult subjects under the skin of the side, was well tolerated and caused only a slight local pain without fever. It was absolutely inoffensive. The serum of the subjects so vaccinated shows very energetic bactericidal properties. In contact with it the Eberth bacillus became deformed, smaller, granular, irregular and unrecognizable. It is active for paratyphoid as well as for typhoid fever and causes a large production of specific antibodies which renders its use of great value for the prevention of typhoid fever.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, June 16, 1910.

German Society for Protection of Infants

May 20 and 21 the second session of the German Society for the Protection of Infants occurred at Munich with a large attendance. The first subject of discussion was the measures which are included in the imperial insurance law for the protection of infants. The provisions that have been introduced in this bill were regarded as in part insufficient. A demand was made that it should be made obligatory on the Krankenkassen to provide for puerperal patients as follows: 1. A weekly allowance up to the amount of the sick relief money for eight weeks, of which at least six must fall in the period after delivery. 2. Service of a midwife and medical treatment for symptoms during pregnancy. 3. Aid on account of pregnancy in case of inability of the pregnant woman to work, amounting to the sick relief money for the entire time of six weeks. 4. In addition to the puerperal aid, a nursing payment amounting to the sick relief money to be paid to the nursing woman as long as she nurses her new-born child up to twelve weeks after delivery. The amount of the nursing money is to be correspondingly diminished if the nursing money and the puerperal money exceed the amount of the regular wages. The expenses which would arise in carrying out these demands would be small in comparison to the object to be accomplished and in view of the fact that they would lead in the end to lessened expense on the part of the Krankenkassen. They amount to 22 cents (90 pfennigs) per head of the insured for the nursing payment and 10 cents (40 pfennig) per head for the midwife and medical services.

There was also considerable debate on the removal of the evils connected with the German wet-nurse system. It was demanded that the furnishing of wet nurses should be placed under the supervision of the state. So far only one state in Germany, viz., Hamburg, has regulated wet nursing by law and there a physician is in charge of the matter. According to Professor Schlossmann it would be best to forbid the furnishing of wet nurses by private parties altogether, and turn the matter over to the foundling asylums. The foundling asylums are best prepared to form a safe judgment as to the health and nursing capacity of the wet nurse and particularly to decide whether she is free from syphilis or not. On the other hand, the wet nurses should also be protected in their rights, for instance against infection by the child they nurse. It should also be provided that a mother shall offer herself as nurse only when she has nursed her own child for three months. The foundling asylum should oversee and provide for the nurse's child for two years. The asylums should make regular reports to the authorities in charge, regarding the children of the nurses. In the discussion much stress was properly laid on the great difficulty in the practical carrying out of these provisions. The physician would be burdened with a responsibility which he might not be able to accept. The furnishing of nurses by asylums would be very expensive. It would be best, if on the whole there were no wet nurses; reference was made to America, where wet nurses are said to exist no longer. For the displacement of the wet nurses, the so-called nursing women (*Stillfrauen*) should be recommended, healthy women, known to the physician, who go to the house of their employer several times a day and nurse the child without completely depriving their own child of breast milk.

Finally, the subject of infant hygiene in the country was taken up, especially the question of the cooperation of physicians and midwives in the prevention of infant mortality. As a chief cause of infant mortality in the country, errors of diet and the indolence of mothers were given. Where the infants are breast fed, the mortality in the country is small. Essentially the propaganda is one for nursing reform and this can be most efficiently carried on by the midwives. The nursing premiums given to the midwives have proved very useful in this respect in small cities; 13 cents (50 pfennig) after six weeks' nursing. To avoid contradiction in the advice of physicians they should be required to employ a circular of instruction. Milk kitchens are indispensable in small cities. The introduction of trade guardianship, regulation of the system of boarding out children, the erection of institutions for sick infants and the improvement of the housing conditions are especially needed in the small cities. It is not practicable to extend the present arrangements for the care of infants in the cities to the open country. In the country nursing premiums are not necessary, as there the women as a rule have time for nursing. It is important to improve the method of inspection of the dead, as carried out in the country: the cause of every death should be exactly determined.

Personal

Privy Councillor Goldscheider has been selected as the successor of Professor Senator. Goldscheider has been until now director of the department for internal medicine of the Rudolf Virchow Hospital, which was opened under his direction. He is very glad I am sure to exchange this position for that of the directorship of the university medical policlinic. The numerous administrative demands which are made on the director of a hospital, especially so large a one as the Virchow Hospital, require so much of a clinician's time, that it is easy to understand his dissatisfaction with his present place. Moreover in such a position conflicts with the authorities are very apt to arise and in this case with the municipal authorities, and as Goldscheider possesses a somewhat excitable temperament such conflicts have occurred to a greater extent than was agreeable to him.

The filling of the chair of ophthalmology at Heidelberg which Professor Leber resigned on account of his advanced age has caused some difficulty. Professor Hess, of Würzburg, and Professor Axenfeld, of Freiburg, refused the call, but now it has been accepted by Professor Wagenmann, of Jena.

Dedication of the New Building of the Kaiser Wilhelm Academy

June 10 the new building of the Kaiser Wilhelm Academy for the instruction of military surgeons was dedicated in the presence of the Kaiser and the Empress and many ministers and other officials. The institution is designed, as its name indicates, for the instruction of students of medicine who wish afterward to serve as army surgeons in the active Prussian army. It was founded Aug. 2, 1795, under the name of the "Pepinière." The number of students has continually increased and as the old institution in all its arrangements was no longer suitable to modern requirements, the corner-stone of the new building was laid five years ago. The building is arranged for the accommodation of about 500 students. Like all other students they attend the lectures of the university and are expected to follow the same course in general, but in the academy they are also instructed, especially by lectures and practice, in military surgery and hygiene. Laboratories for scientific investigation are also provided. The new building, which was erected at an expense of $1.500,000 (7.500,000 marks), is architecturally a very beautiful edifice and one most admirably suited to its purposes. A series of valuable collections has been installed in it: a collection of drugs, one of instruments and dressings, a collection of models of apparatus for the care of the sick, for transportation of the sick, for lodging the sick, for the study of ophthalmology, pathologic anatomy and of ear and throat diseases. There is also an anatomic collection, a collection for physics, a collection for military surgery, including 750 preparations of gunshot wounds of the bones from many wars, presented by Professor v. Esmarch, and finally a library which at present contains about 68.000 volumes. Further there is found in the new building the hygienic laboratory, in which investigations on the provision of drinking water, on preserved foods for the army, on the clothing of soldiers, on methods of disinfection, etc., will be carried on. In the academy postgraduate courses for sanitary officers will be annually provided. A number of our most distinguished physicians have been graduates of the academy: Helmholtz, Virchow, Leyden, Behring, Löffler, Gaffky, etc.—which is good evidence of the excellent instruction which the youths studying military medicine receive at this place.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, June 23, 1910.

The Right to Grant the Title of Specialist

A difference of opinion has arisen recently between the medical council and the government as to the right to grant the title of specialist. For a few years endeavors have been made to regulate the question and to prevent the increase of self-styled specialists. The right to confer this title was claimed by two universities, and special examinations or at least certain studies were demanded as the minimum requirements. In the case, a doctor who had made the treatment of diseases by physical means, like massage, gymnastics, electricity, his special study, settled down in a country town and asked and received from the medical council permission to call himself "specialist for physical treatment" (*Specialarzt für physikalische Heilmethoden*) which, however, was not recognized by the district government officer. At length the right of the council to grant the title was recognized, and the right of a medical representative body to regulate the affairs of its own members has been clearly acknowledged for the first time in this country. In connection with other satisfactory achievements, like the right to settle financial disputes between practitioners and private corporations, the growing influence of medical representatives is clearly shown, proving the value of a good organization.

Benzoic Acid—A Dangerous Food Preservative

By order of the Bureau of Health of the ministry of home affairs (*Ministerium des Innern*) to whose notice several cases of adulteration of food by preservatives had come, an investigation of the question was recently conducted. The laboratory for food examination in Vienna, a government institution, has recently published the results of the investigations. It has been clearly proved that the addition of benzoic acid is necessary only to disguise either the smell or the color of articles of food which are not fit for use and which would otherwise not be procured by the public, and that thus it tends to be used in a fraudulent way. Apart from this fact, its constant use in even small doses may cause irritation of the mucous membranes of the gastro-intestinal tract. Therefore its use was condemned as a preservative and an order made to seize all articles containing such addition in a higher percentage than 0.025 per cent.

Results of Surgical Treatment of Lupus

In a publication dealing with the necessity of centralizing the endeavors to treat lupus systematically, Professor Lang, an authority on this subject, is strongly in favor of surgical treatment of certain forms of this disfiguring disease, in preference to the Finsen treatment. He has operated on 455 patients, showing in 250 instances lupus of the face. The latter cases are very interesting, as they prove that in skilled hands excellent cosmetic and functional results can be expected from surgical treatment with a minimum expenditure of time and expense in comparison with the Finsen method. The lesion in the face was in 95 cases larger than a five-shilling piece, in some instances nearly covering one side of the face. Lang, formerly head of the dermatologic department of the Vienna General Hospital, extirpated all these lupus patches and followed up the extirpation by plastic operations. Of all his patients operated on for lupus, 273 remained free from all recurrence for 16 years (the length of time that he has employed his method). Three patients had a recurrence, but outside of the field of operation, and after 12, 3¾ and 3 years, respectively; 22 of the patients had recurrence within the field of operation, which yielded to another surgical interference, with good results, while 10 had inoperable recurrence out of 455. All these 10 belong to the first half of the cases, or 7 to the first quarter, showing clearly the better results with improvement of technic and of indication. Extirpation is, of course, not always possible. Surgical removal is indicated only when the patch is well defined, which is not the case when it is in the mucous membranes. Size and number are not contraindications, but progressive anemia and grave complications of other organs contraindicate operative measures. In these cases Finsen's method is indicated. Its only disadvantages are the expense and the duration of treatment. Lang is absolutely opposed to excochleation and scarification of lupus, because of the resulting dense scars which hinder later excision or Finsen treatment. He insists that every lupus station shall be in charge of a competent surgeon dermatologist, who is capable of dealing with the cases according as they require excision, plastic operations, Finsen, hot-air or the actual cautery. Such equipments require great funds; therefore, it is better to have one large, completely equipped institute than several small ones. As the means of the Vienna Lupusheim are rather limited, the adoption of the light method alone would have sufficed to consume the funds at disposal. Therefore, the advantage of the surgical method is evident, as the resulting scars are as supple as those of the light treatment.

Correspondence

Practical Examinations for Medical License

To the Editor:—Of all the methods of raising standards, efficiency of examination is no doubt by far the best plan. I doubt whether any other branch is more exposed to a reeling off of mere patter instead of the furnishing of evidence of training than that of psychopathology and psychiatry. The differences of teaching are so great and the vocabulary seems to play such an undue part that there is no fair way to size up the efficiency of a man outside of a demonstration of what he does with an actual case. This plan was in practice when I passed my state examination at Zurich, in Switzerland, in 1890; both in psychiatry and in medicolegal work we had to examine and report on a case, which is perfectly feasible and really the only way to get around the differences of teaching and the hollowness of answers to mere abstract questions. I therefore plead for the introduction of these practical examinations as it will be as much to the interest of the public as to the interest of true efficiency of the work of our colleges.

Adolph Meyer, New York.

Director-elect of the Henry Phipps Psychiatric Clinic, Johns Hopkins University, Baltimore.

McCourt's Early Study of Cancer Treatment by Toxins

To the Editor:—A rereading of your editorial on "Dr. Hodenpyl, a True Scientist" (The Journal, May 14, 1910, p. 1618), and the article of J. W. Vaughan (May 7, 1910, p. 1510) describing the treatment of cancer by the cancer residue, recalls to my mind the earlier work of Dr. P. J. McCourt. Dr. McCourt for a long time treated malignant neoplasms by a diluted glycerin solution of their toxins. The remedy was administered per os. Some very encouraging results were reported, including some apparent cures. A point much insisted on by Dr. McCourt and worthy attention of other investigators is that the remedy used should represent the toxins, not only of the neoplasm but of other complicating affections, such as syphilis, tuberculosis, etc.

At the time when Dr. McCourt began his work, the immunity theory was not distinctly worked out, so that his work appears to us somewhat crude, but it seems to have been along much the same lines as the later work and deserves attention, not only as a matter of historical interest but possibly also because it may be fruitful in suggestion to other investigators. Through former acquaintance with the doctor I am able to send you reprints of his articles on this subject published in the *Medical Review of Reviews*, November, 1899, February, 1900, and April, 1904. I believe these articles are worthy of study by those who are interested in this line of work.

J. W. Wallheim, M.D., New York.

Comments on Dr. Pettey's Article Criticizing the Lambert Treatment for Drug Addictions

To the Editor:—It would appear from a casual reading of Dr. Pettey's article (The Journal, May 14, 1910, p. 1593) that his method of procedure in treating drug addictions is radically opposed to that set forth by Dr. Alexander Lambert (The Journal, Sept. 25, 1909, p. 985). As a matter of fact, the underlying principle and purpose in both treatments are the same. Dr. Pettey's article, on careful analysis, reads not unlike a document designed to explain the various steps followed in the Lambert method.

Dr. Pettey lays stress on the fact that he administers the purgatives so that they may act at a time when the paralyzing effect on peristalsis, of the narcotic to which the patient is addicted, is at a minimum. That is, he takes advantage of the habitué's customary absence from his drug during his sleeping hours; when, naturally, peristalsis is being reestablished. Precisely this idea is adhered to in the treatment advocated by Dr. Lambert. The latter waits fourteen hours from the time he administers the narcotic before beginning active purgation; and further narcotics are not administered until this is obtained. Dr. Pettey, too, insists that the narcotic must not be given again until the bowels have been thoroughly emptied. Thus it is seen that in each case cathartic activity coincides with the fag-end of narcosis. Dr. Pettey decries the drastic cathartics employed by Dr. Lambert and then proceeds to advise a dosage which does not appear to me less heroic when we consider the powerful check the belladonna exerts in Dr. Lambert's plan. Moreover, in the cases in which I have used the Lambert method, the catharsis has not been more than was needed for successful elimination and has seemed secure from dangerous purgation. It must be borne in mind, too, that Dr. Pettey is outlining a course of treatment for a patient taking not more than 10 grains of morphin daily, while Dr. Lambert's treatment embraces the maximum amount of narcotic that may be taken.

Dr. Pettey aims to get the same results by the use of the alkaloids, atropin and scopolamin, which are obtained by Dr. Lambert from the belladonna and hyocyamus from which the alkaloids are derived. In the one, the administration is hypodermatic; in the other, by mouth. There are objections to both as a routine practice and virtue in either where indicated. Dr. Pettey rightly objects to the use of the term "specific" as applied to the combination used by Dr. Lambert. The most that can be said for the drugs in this combination is that they are antidotal. But I cannot agree with Dr. Pettey when he says that the prickly ash has no value in the treatment. This drug is a stomachic and intestinal stimulant and certainly gives the stomach greater tolerance for the other drugs used.

In both treatments characteristic bilious stools are sought for. Dr. Lambert says that "the castor oil will produce a characteristic stool composed of mucus and bile 'after which' the patient is relaxed and comfortable." Dr. Pettey states that the hyposulphite causes the "patient to have small bilious stools which prepare him for a rapid convalescence." Now, to that part of Dr. Lambert's article concerning this phase of the treatment Dr. Pettey gives this critical interpretation: that the patient reaches a "state of placidity and comfort" because he has had a liquid green stool composed of mucus and bile. I believe, however, that anyone will see from a careful reading of the two articles that the significance attached to this stool is identical in the minds of the two men. Each considers it merely as an evidence that the "hyperesthetic state" has terminated and effective elimination taken place.

Dr. Pettey has failed to call attention to a noticeable omission in the Lambert paper. While the method for treating alcoholics is carefully outlined, yet in the appended table of cases, the physician endeavoring to apply the formula finds not a case of alcoholism recorded. Then, too, Dr. Lambert's article seems to say that the treatment for a morphinist may cease at a specified time—the "characteristic stool shows that the entire treatment may cease." Yet a study of the appended table shows that in the majority of cases the so-called "specific" was continued for longer or shorter periods after the time at which, judging from the treatment outlined, it might have been stopped. In my own cases, I have found it necessary to continue the "specific" in most cases for a somewhat longer time than Dr. Lambert designates.

While it is necessary often, as Dr. Pettey suggests, to detain patients in the sanitarium for a convalescence of "one or two months," I believe that patients are sometimes harmed by over-careful carrying along. I have obtained excellent results by dismissing patients from my sanitarium just as soon as it seems at all advisable, and letting them feel that they must rely on their own strength. In most cases, however, I find it best to have patients return to my office at intervals until I am confident that their self-reliance is fully reestablished.

C. C. Wholey, Pittsburg, Pa.

Marriages

Charles J. Wehr, M.D., to Miss Lena Hitzelberger, both of Bellevue, Ohio, June 18.

Alexander J. Rooney, M.D., to Miss Sophia Livermore, both of Brooklyn, June 21.

Kinchen R. Taylor, M.D., to Mrs. Rosina C. Morton, both of New York City, June 19.

John H. Thompson, M.D., to Miss Mabel Ayers, both of Greenspring, Ohio, June 22.

H. Seth Anderton, M.D., Diboll, Tex., to Miss Margery J. Smith, at Baltimore, June 24.

Frederick George Dyas, M.D., Chicago, to Miss Mabel Freer, of Hinsdale, Ill., June 29.

Jacob John Kocher, M.D., to Miss Clareta Margaret Hicks, both of San Jose, Cal., June 15.

John B. Walker, M.D., to Miss Mai Elmendorf Hackstaff, both of New York City, June 22.

Noel Gano Mussey, M.D., Glendale, Ohio, to Miss Penelope Lever, of Loveland, Ohio, June 16.

Julius B. Evans, M.D., and Mary L. Evans, M.D., both of Ada, Ohio, at Columbus, June 20.

Leslie W. Morsman, M.D., Omaha, to Mrs. Margaret M. Thurwood, of Vail, Iowa, June 16.

Charles N. Sturdevant, M.D., Detroit, to Miss Katharine Irvine, at Mercersburg, Pa., June 18.

J. Raymond Kirk, M.D., Paw Paw, W. Va., to Miss Mary Arnold, at Springfield, W. Va., June 18.

Arthur George Blakeslee, M.D., to Miss Helen Catherine Monroe, both of New York City, June 22.

Walter Green Evans, M.D., Stuart, Okla., to Miss Hilda Abernethy Grayson, of Mobile, Ala., June 15.

Gustavus Golseth, M.D., Jamestown, N. Dak., to Miss Florence Pugh, of Casselton, N. Dak., June 14.

Elwin Carl Schneider, M.D., Washington, D. C., to Miss Celina Cruett King, at Alexandria, Va., June 21.

John Peter Schneble, M.D., Woodhaven, N. Y., to Miss Ida Brandenstein, of Glendale, Brooklyn, June 15.

Deaths

Dwight Robbins Burrell, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1868; a member of the Medical Society of the State of New York, American Medico-Psychological Association, Rochester Pathological Society, and Rochester Academy of Medicine; resident physician at Brigham Hall; one of the incorporators of the Ferris Thompson Memorial Hospital, Canandaigua; a veteran of the Civil War; died at his home in Canandaigua, June 18, from cerebral hemorrhage, aged 67.

Alfred Wanstall, M.D. New York Homeopathic Medical College and Hospital, New York City, 1875; a member of the American Medical Association; of Baltimore; aurist and physician in charge of the Baltimore Homeopathic Free Dispensary; a member of the staff of the Atlantic Medical College, Baltimore: died at Baltimore, recently, from heart disease, aged 58.

Arthur Ludwig Anderson, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1908; a member of the American Medical Association; health officer of Aurora, Ill.; died at the St. Charles Hospital, Aurora, June 26, as the result of complications following an operation for appendicitis some time before, aged 28.

Jesse W. Downey, M.D. University of Maryland, School of Medicine, Baltimore, 1869; a member of the Medical and Chirurgical Faculty of Maryland: a Confederate veteran; for many years surgeon of the First Regiment, Maryland National Guard; died at his home in New Market, June 25, from cerebral hemorrhage, aged 62.

Willis Sidney Anderson, M.D. College of Physicians and Surgeons, New York City, 1891; a member of the American Medical Association; of Detroit, Mich.; in charge of the eye and ear department at Harper Hospital for twenty years; was drowned near Belle Isle, June 27, by the capsizing of his canoe, aged 42.

Orin A. Lyon, M.D. Homeopathic Hospital College, Cleveland, 1881; a member of the Northeastern Medical Society; of Akron, Ohio: died June 17, from internal injuries caused by being crushed between his automobile and a tree while cranking the automobile a few days before, aged 55.

Henry Stanley Warren, M.D. Harvard Medical School, Boston, 1900; a member of the American Medical Association; for two years house surgeon at the Boston Children's Hospital; died at the Massachusetts General Hospital in that city, June 25, from cerebral hemorrhage, aged 36.

Clifford Harvey Robinson, M.D. Western Pennsylvania Medical College, Pittsburg, 1900: of Pittsburg; died at the home of his mother in that city, June 26, following an attack of pleurisy last December from which he had never fully recovered, aged 33.

Charles Larkin McCracken, M.D. University of Toronto, Ont., 1881; a member of the Medical Society of the State of California; tax collector of San Mateo county, California; died at his home in Redwood City, June 24, from heart disease, aged 48.

Herman D. Marcus, M.D. Medico-Chirurgical College of Philadelphia, 1891; a member of the American Medical Association; is said to have committed suicide at his home in Atlantic City, N. J., June 16, by taking a solution of cyanid of potassium.

O. T. Huebner, M.D. Hahnemann Medical College and Hospital, Philadelphia, 1869; a member of the Board of Trustees of the Millersville State Normal School; died at his home in Lancaster, Pa., June 25, from dropsy and heart disease, aged 74.

Elijah Blacksheare Bush, Jr., M.D. Atlanta (Ga.) School of Medicine, 1909; a member of the Medical Association of Georgia; surgeon to the Georgia railroad: died suddenly at his home in Colquitt, June 4, from pulmonary tuberculosis, aged 23.

Jacob Huber, M.D. Medical College of Ohio, Cincinnati, 1863; Bellevue Hospital Medical College, 1879; a member of the Illinois State Medical Society; a Civil War veteran; a former mayor and alderman of Pana, Ill.; died at that place, June 27, aged 70.

John R. Shannon, M. D. Southern Medical College, Atlanta, Ga., 1893; a member of the Medical Association of Georgia; at one time president of the Sixth Congressional District Medical Association; died at his home in Cabaniss, near Juliette, Ga., June 22.

Charles L. Gates (exemption certificate; license, 1883); one of the earliest settlers of Hancock, Minn., and a resident of that place for thirty years; was killed while walking on the Great Northern track near Hancock, June 19, aged about 75.

James Eloi Hickley, M.D. Baltimore Medical College, 1903; a member of the Massachusetts Medical Society and American Academy of Medicine: of Springfield, Mass.; died in that city, Dec. 4, 1909, from pulmonary tuberculosis, aged 31.

Belle M. Walrath, M.D. Northwestern University Woman's Medical School, Chicago, 1882; a member of the American Medical Association; of St. Paul, Minn.; died in St. Luke's Hospital, St. Paul, June 20, from cancer, aged 62.

William J. Whittaker, M. D. Royal College of Surgery, Dublin, Ireland, 1863; King's and Queen's College of Physicians, Dublin, 1864; a retired physician of Kansas City, Mo.; died at his home in that city, June 22, aged 69.

Albert Osborn Bogert, M.D. College of Physicians and Surgeons, New York City, 1875; a member of the Medical Society of the State of New York: died suddenly at his home in Spring Valley, N. Y., June 25, aged 59.

C. H. O. Young, M.D. College of Physicians and Surgeons, Baltimore, 1875; a member of the Kentucky State Medical Association; a practitioner of Flippin, Ky., for forty years; died at that place, April 22, aged 64.

George W. Cox, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1865; formerly of Clayton, Ill.; died at the Masonic Home at Sullivan, Ill., June 16, where he had lived for the past three years, aged 49.

Stephen Frost Horton, M.D. New York University Medical College, New York City, 1886; a member of the Medical Society of the State of New York; died at his home in Peekskill, N. Y., June 22, aged 45.

Harvey S. Seymour, M.D. Chicago Homeopathic Medical College, 1883; of Sugar Grove, Ill.; a veteran of the Civil War; died at the Aurora, (Ill.) Hospital, June 23, from pernicious anemia, aged 66.

William Black Rowland Jordan, M.D. College of Physicians and Surgeons, Baltimore, 1886; died at his home in Liberty Grove, Md., June 8, from ischiorectal abscess, aged 50.

Isaac D. Moore, M.D. Medical College of Georgia, Augusta, 1856; of White plains, Ga.; a surgeon during the Civil War; died at his home, June 16, from paralysis, aged 81.

William M. Hendrickson, M.D. Albany (N. Y.) Medical College, 1863; a prominent physician of Coupeville, Wash.; died at that place, May 30, from nephritis, aged 68.

John Colby Landon, M.D. Detroit (Mich.) College of Medicine, 1896; of Philadelphia, Pa.; died in that city, June 20, from heart disease, aged 40.

Emmett C. King, M.D. New York Homeopathic Medical College and Hospital, 1880; died at his home in Hartford, Conn., June 17, aged 58.

James M. Massie, M.D. Physio-Medical College of Indiana, Indianapolis, 1889; of Fort Worth, Texas; died June 15, from nephritis.

Lucius M. Quinn (license, Miss.); died at Holmesville, Miss., Nov. 5, 1909, from hepatic abscess, aged 62.

Pharmacology

DIABETOL

A Diabetes Cure of the "Tropical Herb" Type

Bearing in mind that the nostrum exploiter finds his most fertile field in the "treatment" of those diseases which kill slowly, it is not surprising to find many fake specifics on the market for the cure of diabetes. The average victim of this disease rebels at the only treatment which holds out any hope of success—careful dieting and strict attention to hygiene—and demands of the physician the impossible: a drug that is specific for his ailment. Those who treat diabetics know how terribly difficult it is to get these patients to obey the orders as to diet, etc., and how extremely prone such unfortunates are to experiment with the thousand-and-one "cures" recommended to them by well-meaning friends or by the manufacturers. The field is thus a rich one for the nostrum exploiter and needless to say is being assiduously tilled.

"Diabetol" is put on the market by the Ames Chemical Company, Whitney's Point, N. Y., and is heralded through the newspapers as "A New Discovery for the Cure of Diabetes and Kidney Diseases." The "discovery" was made, we are told, by Frank M. Ames, a civil engineer, who spent more than twenty years in tropical American countries, most of the time being in "tropical jungles." From an "absolutely reliable" native Mr. Ames learned of the existence of a "herb that would cure diabetes," and from experiments which he has made with this "herbal remedy" he finds that it "has a direct specific action in the cure of this dreaded disease."

In the advertising pamphlet the physician is told that "diabetol is not a patent or secret medicine." How much reliance can be placed on this statement may be seen by the following reply from the Ames Chemical Company to a physician who, on the strength of the above claim, wrote for information regarding this nostrum:

> "We have received your favor and would say in regard to our herb, that we do not know whether it has been classified botanically or not, as we only know the Indian name and location where it grows, which of course *we have to keep secret* [Italics ours.—ED.] to protect ourselves."
>
> "Diabetol herb will certainly cure diabetes and do it quick. . . ."

The old scheme of a "home-made" uranalysis, by which the patient may confidently be expected to frighten himself into purchasing the nostrum, is worked as follows:

> "Set aside a quantity of your morning urine for twenty-four hours, then if found cloudy, stringy or with sediment there is something wrong and you should take a few packages of Diabetol to correct your system, thereby eliminating the invasion of Diabetes or Bright's Disease."

It is hardly necessary to say that this "test" will indicate the presence of incipient diabetes or Bright's disease in no small portion of the human race.

On an advertising circular headed, "First week results with Diabetol," the following statements are made:

> "Diabetol acts like magic in the cure of diabetes and the patient improves rapidly from the first dose. Note a few of the marvelous results. Can any other remedy approximate it? We challenge comparison."

Then follows a list of individuals who enthusiastically endorse Diabetol. The worldly-wisdom of the exploiter of Diabetol in publishing "first week results" instead of later reports, was made evident when we began to receive letters from physicians to whom we had written for further information, regarding these cases. For instance:

WHAT THE TESTIMONIALS SAY	WHAT PHYSICIANS WRITE
"Have gained 5 pounds in 12 days and specific gravity lowered 13 points with a slight reduction in sugar; guess I am on the right track at last."—N. C. B., Mich.	"Relative to the matter of Mr. N. C. B.; he died May 29, 1909, from diabetic coma."
"The trial treatment has improved me a great deal and I hope to find a permanent cure in your remedy."—F. P. R., Tenn.	"Mr. F. P. R. gave Diabetol a good trial but be received no benefit from it; died about 3 weeks ago."
"I received good results from sample."—A. M. G., Pa.	"Regarding Mr. A. M. G., have conferred with both the chief of police and postmaster and am unable to locate a party having this name."
"I received your sample package of Diabctol and I think it will do all you claim."—W. E. L., Ohio.	"Mrs. W. E. L. . . . has progressively lost weight from 175 to 144 pounds. . . . She estimates the quantity of urine each 24 hours to more than fill a 12-quart pail. . . . I have to-day examined a sample of her urine and find the sp. gr. 1.034 with plenty of sugar."
"Have taken about one-half of the trial package you sent me and feel much improved already."—E. N. T., New York.	"Mr. E. N. T.'s appearance is now very good . . . says he is still weak; he tells me that *when he adheres closely to diet* and takes the medicine he feels much better . . ."
"Received sample, and it has made a big improvement in me."—G. W. Y., Md.	"Mr. G. W. Y. died Jan. —, 1910."
"I am feeling much better."—H. R., Ind.	"The party referred to . . . never had diabetes . . ."
"The sample package sent me has proved more than satisfactory."—A. P. B., New York.	"Mr. A. P. B. has had diabetes over 10 years . . . his condition is about the same as usual. . . . He now knows Diabetol did him no good."
"I have been using your herb for diabetes for four weeks with success. . . . After another package I expect very little trace of sugar in my system."—J. N. H., Iowa.	"Mr. J. N. H. had diabetes and still has. . . . He stated to the Diabetol company that he felt a little better . . . but he soon felt the same as before. I tested his urine and found it loaded with sugar."

To determine so far as possible what the nature of this marvelous "tropical herb" is, the help of Prof. C. F. Millspaugh was sought. Professor Millspaugh is curator of the department of botany of the Field Museum, Chicago, an institution having one of the most extensive collections in botany extant, and enabling the experts there to determine the character and source of almost anything that belongs to the plant world. Professor Millspaugh's reports:

ANALYSIS

"I have this day examined the contents of a package of Diabetol Herb received from you in original and unbroken package. The package contains broken young stems and leaves with a few flower buds and bits of developed flowers intermixed. All the material is from a shrub belonging to the Bignonia family and known as *Stenolobium stans* (L.) Don. *(Bignonia stans* Linn.; *Tecoma stans* Juss.) This shrub grown more or less plentifully from Arizona southward through Mexico and Central America to the northern part of South America, throughout the West Indies and to the Bahamas and south Florida. The contents of the package suggests to me that its source was somewhere near the State of Hidalgo, Mexico.

"This shrub has more or less local reputation as a diuretic and is used to some extent for that purpose by the natives of the regions in which it grows."

Diabetol, then, differs not at all from other nostrums of its class. The mysterious secret herb, the absurdly broad claims, the worthless testimonials, the exploiter without medical knowledge—all these elements enter into so many of the widely advertised "sure cures" that one would think that the very lack of originality would make their sale impossible. But there is no limit to the credulity of the hopelessly ill and on this weakness the great American fraud thrives.

CALCIUM CHLORHYDROPHOSPHATE

C. R. Noyes, pharmacist, St. Paul, Minn., calls attention to the formula on page 152 of the National Formulary, which he thinks of interest, in view of the article on calcium chlorophosphate in THE JOURNAL, May 7, 1910, page 1560.

The formula referred to is for "syrupus calcii chlorhydrophosphatis," or syrup of calcium chlorhydrophosphate. In the preparation of this syrup calcium phosphate is dissolved by the addition of hydrochloric acid. It therefore does not contain the hypothetical or impossible compound indicated by its title, but instead appears to owe its therapeutic value to calcium acid phosphate and calcium chlorid. Thus THE JOURNAL'S criticism of Pautauberge's solution, to the effect that it is claimed to contain a chemical substance unknown to chemists, may with equal fairness be applied to the National Formulary preparation referred to. The assertion has been made that a number of the preparations in the National Formulary have been devised in imitation of, or rather as substitutes for, certain proprietary mixtures which had become somewhat popular. This assertion derives a certain degree of support by a comparison of the two preparations in question. In naming the preparation, it is probable that the makers of the formulary were guided by the composition claimed for Pautauberge's solution, although they should have known there is no such substance as calcium chlorhydrophosphate.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MUNICIPAL HOSPITALS

To the Editor:—Are there any municipal hospitals built on the plan of providing a room for each patient? Two or three years ago you had some plans in THE JOURNAL, which I put away, but have lost. Please refer me to them. T. D. LONGINO, Atlanta, Ga.

ANSWER.—So far as we know there is no municipal hospital in which each patient has a private room. There are private rooms in nearly all municipal hospitals for certain classes of patients, such as the insane, some of the infectious diseases, and so on. In a number of children's hospitals, and in general hospitals that have children's departments, there are what are known as observation wards; these are private rooms fitted with private bath, basin and toilet, so that a child suffering from one of the exanthemata, or suspected of developing a contagion or infection, can be isolated until the disease develops. These rooms are built with part of the partitions of glass, with the head nurse's desk so placed that she can look through two or three, or even more of these private rooms.

Nearly all detention hospitals which are municipal in character, and supported by the public are made up of a private room for each patient, and a common recreation room where a single guard can watch a number of patients as they exercise or associate with each other. The tendency, however, is to construct hospitals generally with wards very much smaller, containing say a maximum of ten or fifteen beds. Nearly all municipal hospitals are now constructed with one or more so-called "quiet rooms" off each ward, in which special cases may be placed, as for instance, immediately following operations, delirious patients, patients that are noisy, patients suffering from some nervous affection, making them oversensitive to noises made by others.

The articles referred to are as follows:

Sturm, Meyer: The Planning and Construction of Hospitals for Smaller Cities and Towns, THE JOURNAL, Feb. 20, 1909, p. 610.

Holmes, Bayard: A Suggestive Plan for a Modern General Metropolitan Hospital of Five Hundred Beds, THE JOURNAL, March 28, 1908, p. 1025.

Thompson, W. Gilman: Modern Hospital Construction, THE JOURNAL, Sept. 21, 1907, p. 993.

Ochsner, A. J.: Practical Points of Economy in Hospital Construction, THE JOURNAL, Sept. 21, 1907, p. 990

SERUM FOR EXOPHTHALMIC GOITER

To the Editor:—Please inform me where Rogers' serum for the treatment of goiter can be obtained; also give brief comment as to its usage. S. W. T.

ANSWER.—The antithyroid serum for use in exophthalmic goiter or Graves' disease can be obtained on application to Dr. S. P. Beebe, at the Loomis Laboratory, 414 East Twenty-sixth Street, New York City. It will be furnished only after receiving complete information in regard to the particular case under treatment. It is of therapeutic value only in cases of so-called exophthalmic goiter. It is of no value in the type known as "simple goiter." The antithyroid serum is not harmless and cannot be administered with impunity on the principle that if a little is good, more is better. The dosage must be carefully regulated to suit the condition of the patient. The injections are rarely given oftener than once in twenty-four hours and are not to be continued in the face of manifest increasing severity of reaction. The serum treatment, with its modifications, has been discussed in the November, 1908, number of the *Archives of Internal Medicine* and in the *Annals of Surgery*, December, 1909, and February, 1910. As the serum is not on a commercial basis, and as it is prepared at large expense by the Cornell University Medical College, in which the Loomis Laboratory is devoted to the department of experimental therapeutics, the laboratory should be asked to supply it only in cases in which it is really indicated, and therefore careful case records should be furnished with all requests for the serum. These records of cases are preserved for reference.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 2, 1910:

Nichols, Henry J., capt., granted 3 months' leave of absence, with permission to go beyond sea, about July 1, 1910.

Allen, John H., major, left Fort Meyer, Va., accompaning Headquarters Band and Troops A, B and D, 15th Cavalry, en route to Camp of Instruction, Gettysburg, Pa.

Waterhouse, S. M., major, left Fort Washington, Md., en route to Washington Barracks, D. C., for duty with Headquarters, and Cos. A and D, 1st Batt. Engineers, to Camp of Instruction at Gettysburg, Pa.

Sheep, William J., lieut., left Fort Myer, Pa., accompanying Headquarters 2nd Battalion and Batteries E and F, 3rd Field Artillery, to Camp of Instruction, Gettysburg, Pa.

Casaday, George H., dental surgeon, ordered to proceed to Fort Baker, Cal., for temporary duty.

Reno, W. W., major, left Fort McKinley, Me., en route to South Framingham, Mass., for duty as inspector-instructor to Ambulance Co. and Hospital Co. Massachusetts Militia.

Hollingsworth, R. M., dental surgeon, contract annulled June 20, 1910.

Ingalls, R. E., dental surgeon, left Fort Douglas, en route to Fort Duchesne, Utah, for temporary duty.

Talbott, E. M., capt., and Haverkampf, G. W., lieut., left Fort D. A. Russell, Wyo., with Co. A, Hospital Corps, en route to military tournament, Chicago.

Williams, H. B., M. R. C., left Camp Upton, Sparta, Wis., en route to military tournament Chicago.

Cosman, George H. R., major, left Fort Barrancas, Fla., en route to Chickamauga Park, Ga., for duty at Camp of Instruction.

[illegible] A., capt., and Bastion, J. E., lieut., left Walter Reed General Hospital, Takoma Park, D. C., with detachment of Hospital Corps Co. C, en route to Camp of Instruction, Gettysburg, Pa.

Taylor, Blair D., col., left Atlanta, Ga., for duty as Chief Surgeon, Camp of Instruction, Chickamauga Park, Ga.

Reynolds, Frederick P., major, ordered to proceed from Fort Monroe, Va., to Kavner, N. Y., and report on arrival to the senior instructor at the encampment of infantry officers, 3rd Brigade, State of New York, for duty delivering lectures on camp sanitary, etc.

Appel, Aaron, H., col., detailed as Chief Surgeon of Camp of Instruction at the Fort D. A. Russell Target and Maneuver Reservation, Wyo.

Ingalls, Raymond E., dental surgeon, ordered from Fort Douglas, Utah, to Fort Duchesne, Utah, thence to Fort Wingate, N. Mex., for such professional services as may be required of him at those posts.

Shook, Jay R., major, ordered to Denver to take physical test.

Marietta, Shelley U., M. R. C., with one sergeant and one private first class or private H. C., with one ambulance and necessary medical supplies, ordered from Fort Des Moines, Iowa, by marching, to Iowa City, Iowa, to participate in encampment of 54th Iowa Inf., from July 18 to 27.

Morgan, Norman D., contract surgeon, relieved from duty at Presidio of San Francisco, June 30, and ordered to report to Chief Surgeon of that Department for annulment of contract.

Lowe, Thomas S., M. R. C., ordered from Presidio of Monterey, Cal., to Atascadero, Cal., for temporary duty, relieving Contract Surgeon James W. Brownlie, Jr., who is directed to report to Chief Surgeon of Department on June 30, for annulment of contract.

Johnson, Thomas H., M. R. C., ordered from Fort Baker to Fort Mason, Cal., for temporary duty as post surgeon and attending surgeon Headquarters Department of California, during illness of Captain Perry L. Boyer, Medical Corps, or until latter is relieved.

Hill, Eben C., 1st lieut., sick leave of absence further extended 1 month.

Carr, William B., 1st lieut., detailed member of examining board at Fort Monroe, Va., vice Captain George P. Peed, M. C., relieved.

Sharpe, Herbert H., M. R. C., assigned to permanent duty at Fort Niagara.

Bartlett, Cosam J., capt., ordered to Fort Banks, Mass., as member of examining board to meet July 12, 1910.

Crum, Wayne H., M. R. C., ordered to Fort Ontario, N. Y., as member of examining board to meet July 12, 1910.

Patterson, Robert F., dental surgeon, ordered from San Francisco to Fort Sheridan, Ill., for duty.

Johnson, Howard H., capt., granted 2 months' leave of absence, to take effect on or about July 20, 1910.

Myers, William H., M. R. C., ordered to Fort Screven, Ga., for duty, relieving First Lieutenant Fred T. Koyle, M. R. C., who is ordered to Fort Mansfield, R. I., for duty, on expiration of leave.

Sanford, Joseph L., M. R. C., granted leave of absence for 4 days to take effect on or about July 5, 1910.

Oliver, Robert T., examining and supervising dental surgeon, granted 2 months' leave of absence, to take effect on or about July 1, 1910.

Siler, Joseph F., capt., ordered from New York City to Peoria, Ill., to study pellagra in connection with commission organized by the governor of Illinois.

Blanchard, R. M., capt., reported for duty at Camp J. M. Dickinson, Chicago.

Person, Elbert E., major, reported for duty at Camp of Instruction, Gettysburg, Pa.

Woodall, William P., capt., reported for duty to temporary command of one-half of Co. A, Hospital Corps, at Target and Maneuver Camps at Fort D. A. Russell, Wyo.

Oliver, Robert T., E. S. D. S., order to proceed to Camp of Instruction at Gettysburg, Pa., is revoked.

Hallett, Harley J., M. R. C., relieved from temporary duty at Fort Hamilton, N. Y., and ordered to return to Fort Totten, N. Y.

Hartnett, E. H., major, ordered to Fort Monroe, Va., for temporary duty.

Talbott, E. M., capt., and Haverkampf, C. W., lieut., report arrival at Camp J. M. Dickinson, Chicago, for duty.

Demmer, C. C., lieut., left Fort Thomas, Ky., for duty at Camp of Instruction, Gettysburg, Pa.

Johnson, Thomas H., M. R. C., reported for temporary duty at Fort Mason, Cal., and as attending surgeon, Department Headquarters.

Beery, Harry R., lieut., reported for duty at Camp J. M. Dickinson, Chicago.

Williams, H. B., M. R. C., reported for duty at Camp J. M. Dickinson, Chicago.

Owen, L. J., capt., left Fort Benjamin Harrison, Ind., en route to Camp J. M. Dickinson, Chicago.

Lynch, Edward C., M. R. C., left Omaha, en route to take station at Fort D. A. Russell, Wyo.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended June 29, 1910:

Irwin, Fairfax, surgeon, leave of absence for 1 month and 10 days from Sept. 1, 1910, amended to read from September 15.

Banks, Charles E., surgeon, leave of absence granted for 12 days from June 12, 1910, amended to read 10 days from June 15, 1910.

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from June 22, 1910, on account of sickness.

Brooks, S. D., surgeon, detailed to represent the Service at the meeting of the American Institute of Homeopathy to be held in Los Angeles, Cal., July 11-15, 1910.

Cobb, J. O., surgeon, granted 7 days' leave of absence from June 26, 1910.

Geddings, H. D., surgeon, detailed to attend the First International Congress of Administrative Sciences to be held at Brussels, Belgium, July 28-31, 1910.

Von Ezdorf, R. H., P. A. surgeon, granted 5 days' leave of absence from June 28, 1910, on account of sickness.

Lumsden, L. L., P. A. surgeon, reassigned for duty in the Hygienic Laboratory, effective June 27, 1910.

Holt, John M., P. A. surgeon, granted 7 days' leave of absence June 19, 1910, and 1 day's leave of absence June 26, 1910.

Lloyd, B. J., P. A. surgeon, granted 1 month's leave of absence from June 20, 1910, on account of sickness.

Bahrenburg, L. P. H., P. A. surgeon, granted 18 days' leave of absence from July 1, 1910.

Warren, B. S., P. A. surgeon, granted 2 months' leave of absence from July 5, 1910.

Stimson, A. M., P. A. surgeon, reassigned for duty in the Hygienic Laboratory, effective June 29, 1910.

Spratt, R. D., P. A. surgeon, granted 7 days' leave of absence from June 14, 1910, on account of sickness.

Herring, R. A., asst.-surgeon, granted 14 days' leave of absence from June 15, 1910.

Adams, X. F. B., acting asst.-surgeon, granted 4 days' leave of absence from June 30, 1910.

Duncan, W. A., acting asst.-surgeon, granted 28 days' leave of absence with pay, and 2 days' leave of absence without pay from May 5, 1910.

Fahey, B. W., acting asst.-surgeon, granted 7 days' leave of absence from June 24, 1910.

Parker, Thomas F., acting asst.-surgeon, granted 4 months' leave of absence without pay from July 1, 1910.

Stanton, J. C., acting asst.-surgeon, granted 4 days' leave of absence from June 27, 1910.

Weldon, William A., acting asst.-surgeon, granted 30 days' leave of absence from July 5, 1910.

Wilson, J. G., acting asst.-surgeon, granted 7 days' leave of absence from June 22, 1910, under paragraph 210, Service Regulations.

Association News

NEW MEMBERS

The following is a list of new members of the American Medical Association for the month of June, 1910. Stars and daggers are placed before those who became members at the St. Louis Session; the dagger indicates that the name so marked was previously on the subscription list.

ALABAMA

*Blake, W. H., Sheffield.
*Copeland, M. A., Birmingham.
†Goode, Rhett, Mobile.
Peterson, E. A., Mobile.
†Stubbins, S. G., Birmingham.

ARKANSAS

*Biles, Lee E., Augusta.
*Bourland, O. M., VanBuren.
Davis, E. N., Little Rock.
Harrison, F. E., Fordyce.
*Lightfoot, J. A., Texarkana.
*Neece, Thos. C., Walnut Ridge.
†Powell, J. T., Maysville.
Purifoy, L. L., El Dorado.
*Reeves, W. R., Alma.
Rodman, T. N., Cushman.
*Watson, E. L., Newport.
Webb, Abner, Ft. Smith.

CALIFORNIA

Bunnell, Sterling, San Francisco.
Bruman, A. K., San Francisco.
O'Neill, B. J., San Diego.
†Sellery, A. C., Long Beach.

COLORADO

Davis, J. B., Denver.
†Elliott, E. W., Ft. Morgan.
*Neuman, D. S., Denver.

CONNECTICUT

†Hepburn, T. N., Hartford.

FLORIDA

Thompson, J. M., Ocala.

GEORGIA

Adair, Robin, Atlanta.
Bradley, T. E., Cordele.
Dennard, J. H., East Point.
Moore, J. M., Macon.
Murray, G. S., Columbus.
Roberts, C. W., Douglas.
Stuckey, E. O., Atlanta.

ILLINOIS

*Adams, J. W., Carrollton.
†Allyn, W. H., Waverly.
†Altman, Maurice, Springfield.
*Beard, I. J., Godfrey.
*Berrey, I. S., Batchtown.
†Bradley, R. C., Peoria.
Brown, L. S., Hillsboro.
*Bryant, J. B., Lawrenceville.
*Burke, C. O., Atlanta.
†Cannady, E. W., E. St. Louis.
†Carter, Wm. J., Mattoon.
*Caseburn, A. L., Ferris.
Casey, L. B., Marion.
*Chapin, H. A., White Hall.
†Cook, E. A., Upper Alton.
*Crain, B. F., Carterville.
Culbertson F. D., Littleton.
*Davidson, W. E., Kingston.
†Duane, J. F., Peoria.
†Du Four, W. G., Chenoa.
†Flentje, Robt., Buffalo.
*Fockler, G. W., Delavan.
Garrison, A. J., Buckley.
*Glascock, E. N., Mill Shoals.
*Gore, C. P., Lawrenceville.
†Grear, D. W., Jonesboro.
Green, W. I., Sumner.
Harrigan, C. P., Chicago.
†Hick, J. C., Eldorado.
†Nilliard, T. J., Fairfield.
*Johnson, C. W., Litchfield.
Jones, Wm., Aurora.
†King, B. H., Granite.
*King, J. A., Victoria.
†Knappenberger, T. G., Chicago.
†Lamb, J. G., Fisher.
†Lane, E. H., E. St. Louis.
*LeSaulnier, H. L., Red Bud.
*Lescher, E. R., Mt. Carmel.
Lockwood, F. K., Virden.
*Long, J. H., E. Moline.
*McKee, J. F., Johnston City.
*McMurray, R. J., St. Francisville.
*McNemer, G. H., Cairo.
Meirink, B. J., Germantown.
Niess, John, Jr., Carmi.
*Nobles, C. D., Buncombe.
†Nyberg, R. B., Harrisburg.
*Paul, E. W., Forest City.
*Perry, W. H., Carterville.
*Pope, R. D., DuQuain.
Rayhill, C. G., Belleville.
*Riffey, J. H., Girard.
Roberts, R. B., Brimfield.
Rubovits, W. H., Chicago.
Russell, Rose A., Granite City.
*Sanders, C. J., Ashley.
*Sanders, K. D., Jonesboro.
*Scott, F. C., Adrian.
*Shawl, J. L., Onarga.
*Siegel, J. H., Collinsville.
Stacy, G. H., Jacksonville.
Steffenson, O. M., Chicago.
Stiehl, E. P., Floraville.
*Stewart, J. H., Jr., Exeter.
*Summers, Edmund, Mattoon.
†Tharp, Royal, Benton.
Thomas, J. Smith, Pleasant Hill.
†Tobin, J. R., Elgin.
†Treadway, W. Y., Jacksonville.
*Trueblood, R. R., Lawrenceville.
†Turner, A. F., Taylorville.
†Van Hook, H. M., Mt. Pulaski.
*Wattleworth, J. R., Yale.
Wickstrom, Emma M., Chicago.
†Wilhlemj, Walter, E. St. Louis.
*Wilkins, D. R., Pocahontas.
Wilson, G. K., Streator.
†Wolfe, H. M., Taylorville.
*Wright, L. D., Rochester.

INDIANA

*Arthur, S. I., Patoka.
Barnes, I. C., Indianapolis.
†Buck, G. M., Burrows.
*Carson, S. L., Lincoln City.
†Chappell, R. S., Indianapolis.
*Gibson, J. P., Stewartsville.
†Haskell, C. C., Indianapolis.
*Haywood, C. W., Elkhart.
†Hill, L. B., Seymour.
†Jerome, J. N., Evansville.
*Lukemeyer, E. G., Huntingburg
†Maxedon, T. H., Vincennes.
McCormack, H. D., Vincennes.
*McGowan, T. J., Vincennes.
*Olmsted, R. T., Milan.
*Rothrock, M. W., Howell.
Somes, J. F., Vincennes.
*Thurston, H. S., Indianapolis.
Townsend, R. C., Osgood.

IOWA

*Chesire, Marshalltown.
†Dierker F. H., West Point.
*Downing, W. L., Moulton.
*Jordan, J. C., Des Moines.
Leavitt, F. J., Gilmore City.
†Lomas, W. A., Villisca.
*McClure, E. C., Bussey.
*Mott, W. H., Farmington.
†Posner, E. R., Des Moines.
Sanders, W. E., Alta.
*Townsend, P. M., Marshalltown.
†Williams, B. G., Oskaloosa.
†Zook, A. J., Adair.

KANSAS

Brady, C. F., Parsons.
†Ford, K. B., Wichita.
*Forney, C. D., Wichita.
†Gooch, W. S., Mapleton.
†Green, D. E., Pleasanton.
*Greene, Marie A., Kansas City.
Harker, H. J., Horton.
Hobson, A. D., White Cloud.
*Jewink, J., Prairie View.
Knox, W. E., Norcatur.
Kees, W. H., Pleasanton.
*Lambeth, G. B., Moran.
Matassarin, Leon, Lawrence.
Smith, G. S., Liberal.
†Smith, L. T., Newton.
†Sutton, W. S., Kansas City.
Walker, A. E., Anthony.
*Wilhoit, J. C., Manhattan.
†Williams, F. S., Wichita.
Zergan, G. F., Holyrood.

KENTUCKY

†Amerson, S. S., Sullivan.
†Blakey, T. W., Hopkinsville.
†Boggess, W. F., Lowndes.
†Poyd, Frank, Paducah.
*Covington, E. D., Hardin.
*Dixon, J. T., Providence.
Flowers, M. B., Albany.
*Gourley, W. W., Fulton.
*Hughes, H. I., Hardin.
*Hunt, Chas., Clinton.
*Lamkin, T. L., Paducah.
Lewis, J. W., Oakland.
Lowery, O. T., Tolu.
†Mason, Will, Jr., Murray.
Moore, J. M., Tolu.
Moore, P. A., Jordan.
*Patterson, John, Frankfort,
*Poole, W. A., Henderson.

Taylor, J. W., Hartford.
†Travis, F. M., Gilbertsville.

LOUISIANA

Dimitry, T. J., New Orleans.
Jarrell, C. M., Crowville.
Ney, K. W., Madisonville.
Perkins, R. T., New Orleans.

MARYLAND

Casles, D. B., Baltimore.
†Fochtman, F. W., Cumberland.
Knapp, H. C., Baltimore.

MASSACHUSETTS

Bixby, O. E., Saugus.
Bush, A. D., Newtonville.
Gafney, H. D., Ware.
Piper, F. S., Lexington.
†Sargent, O. F. L., Lawrence.
Stowell, E. C., Boston.
Watkins, R. P., Worcester.
Wentworth, M. H., Boston.
West, F. O., Boston.

MICHIGAN

Abelmann, T. C. H., Grand Rapids.
Budde, A. E., Norway.
Bunshaw, A. H., Detroit.
Cushman, M. L., Lansing.
Donker, A. E., Forest Grove.
Groff, C. F., Detroit.
Hackney, F. J., Lupton.
†MacKenzie, R. G., Ann Arbor.
McLandress, J. A., St. Charles.
Mercer, C. D., Addison.
Rigterink, J. W., Freeport.
Sample, J. T., Saginaw.
Sanderson, H. A., Detroit.
Stevens, R. H., Detroit.
Treat, David, Adrian.

MINNESOTA

Bigelow, C. E., Madison Lake.
*Kirmse, G. W., Frazee.
*Lewis, C. B., St. Cloud.
*Munger, L. H., Winona.
†Smith, F. L., Chatfield.
*Verne, V. E., Moorhead.
*Whitstone, Mary S., Minneapolis.

MISSISSIPPI

Cooper, I. W., Newton.
*Leathers, W. S., University.
Hand, A. P., Shubuta.
Sharp, W. E., Pascagoula.

MISSOURI

†Alderman, M. C., Sedalia.
*Allee, W. L., Eldon.
*Allen, F. W., Callao.
Altham, A. G., Metz.
†Amyx, R. F., St. Louis.
*Andrews, J. P., Marionville.
†Armstrong, J. H., St. Louis.
Bankhead, J. E., Clarksville.
†Barber, M. B., Flat River.
*Barnes, P. C., St. Louis.
†Barnett, M. C., St. Louis.
†Barr, C. M., St. Louis.
Bartels, L. G., St. Louis.
Bartlett, E. M., Clarksville.
*Bassett, C. W., St. Louis.
Beeson, J. P., Southwest City.
Blue, A. B., Hannibal.
†Bohan, P. T., Kansas City.
†Bohling, C., Sedalia.
Donham, V. Q., Fayette.
*Bracy, Rolla, Wellston.
*Bradley, J. M., St. Louis.
*Bradley, W. P., Windsor.
†Breuer, R. E., Newburg.
*Bridges, J. R., Kahoka.
*Brooks, F. C., St. Louis.
*Brown, C. H., Fair Play.
*Bruton, J. W., Ozark.
*Bryan, E. M., Fulton.
*Burke, J. P., California.
†Caplan, L., St. Louis.
*Claiborn, E. G., Decaturville.
†Corley, H. N., St. Paul.
†Curtis, A. N., St. Louis.
*Damour, F., Balckow.
*Damron, O. H., Silex.
Daniel, J. R., Clarence.
Davis, J. D., Louisiana.
*Davis, J. S., East Prairie.
*Dawson, J. W., El Dorado Springs.
*Dreschler, Louis, St. Louis.
†Dixon, C. H., Holliday.
Donnell, J. F., Crystal City.
Dummit, Manford, Pierce City.
Dyer, J. H., Warrenton.
†Dyer, D. O. P., Sedalia.
*Edgell, O. K., Eolia.
*Elkins, C. B., Springfield.
Ellis, F. B., Garden City.
Enloe, I. N., Jefferson City.
*Fairchild, S. F., St. Louis.
*Fewel, R. B., Montrose.
†Fleming, C. R., Farmington.
†Foreman, C. O., Warrenton.
†Foreman, J. M., Jonesburg.
†Foster, J. P., LaCrosse.
*Forsyth, R. C., Kirkwood.
*Fulbright, J. H., Springfield.
*Fulton, A. L., St. Louis.
Glahn, C. P., Palmyra.
†Grace, H. M., Chillicothe.
Gray, Isabel S., St. Louis.
Greenlee, A. R., Kansas City.
Grimes, W. P., Kansas City.
*Grote, W. F. H., St. Louis.
Gunn, W. G., Florence.
†Guss, W. C., Hannibal.
Guthrie, C. C., St. Louis.
*Hampton, J. R., Clinton.
*Handley, W. E., St. Louis.
†Harmann, M. F., St. Louis.
†Harrell, H. J., St. Louis.
*Harris, H. W., Winchester.
*Hartley, L. D., Nebo.
*Harwood, W. S., Rensselaer.
*Hauck, E. F., St. Louis.
*Hauck, Louis, St. Louis.
Hays, W. H., Hannibal.
†Hendrix, M. B., Caruthersville.
†Herrick, H. C., St. Louis.
Hertel, G. E., St. Louis.
Hickerson, E. R., Moberly.
†Hickerson, J. T., Centralia.
*Hodges, D. M., East Prairie.
*Hogue, J. A., Jr., Holcomb.
*Hooss, Albert, St. Louis.
*Hopkins, W. S., Bolivar.
Horwitz, A. E., St. Louis.
*Howard, F. A., Slater.
Howell, J. S., Hannibal.
†Jackson, T. J., St. Charles.
†Jacobson, Jacob, St. Louis.
*James, E. F., Springfield.
Jameston, C. H., St. Louis.
*Jennings, R. J., Windsor.
Johnson, F. P., St. Louis.
*Jones, J. L., Jonesburg.
*Kirth, J. F., Sturgeon.
†Kenney, W. L., St. Joseph.
*Kerr, H. L., Sparta.
†Kutzeborn, E. E., St. Louis.
*Koontz, C. J., St. Louis.
*Lang, J. H., Centertown.
*Lebrecht, J. C., St. Louis.
Lee, E. J., Jr., St. Louis
Leighton, W. E., St. Louis.
†Leonard, H. O., Kansas City.
Leusley, M. E., Madison.
*Luman, F. E., Baring.
Lutman, H. N., Versailles.
†Macdonald, J. W., St. Louis.
Mackey, C. A., Hannibal.
*Mann, A. W., Oak Grove.
†Martin, T. A., St. Louis.
*McCall, W. K., Worcester.
†McCoy, G. C., St. Louis.
†McNutt, W. B. A., Monroe City.
†Meisenbach, A. E., St. Louis.
†Meisenbach, A. H., St. Louis.
†Merz, Adolph, St. Louis.
†Miller, R. M., Bogard.
*Miller, T. C., Ash Grove.
Miller, W. H., Macon.
*Mitchell, A. W., Humansville.
Monroe, A. E., Sedalia.
†Moore, Chas., Advance.
*Moore, Sherwood, St. Louis.
†Morris, C. C., St. Louis.
Muns, G. E., Montgomery City.
*Myers, G. T., Macks Creek.
Nelson, H. E., Excelsior Spgs.
†Nickell, L. O., Clarence.
*Nifong, Wm., Fredericktown.
Noland, M. R., Holliday.
*Ogle, O. L., St. Louis.
Osborn, J. F., St. Joseph.
Owens, R. J., Mill Spring.
*Paine, G. F., St. Louis.
Paxon, C. E., Hannibal.
*Peters, M. L., Cameron.
*Petty, W. S., Rutledge.
Pfeffer, P. A., St. Louis.
†Pfingsten, C. F., St. Louis.
Pickard, M. W., Kansas City.
†Pohlmann, F. L., St. Louis.
*Poorman, B. A., Kansas City.
*Poston, H. P., Bonne Terre.
*Potts, J. D., St. Louis.
Prichard, J. B., St. Louis.
Rafter, J. G., Huntsville.
*Reim, Hugo, St. Louis.
*Richardson, K. B., Kansas City.
*Risley, C. H., Cameron.
*Robinson, J. F., Nevada.
†Rowe, H. J., Willow Springs.
Rowland, W. P., Bevier.
Roy, F. K., Clarence.
*Rutledge, J. E., Festus.
†Ryland, C. T., Lexington.
*Safford, W. G., Tarkio.
†Sanders, F. L., Kansas City.
†Schmidt, R., Victoria.
†Schweninger, E. A., St. Louis.
†Scott, C. D., St. Louis.
Scott, J. M., St. Louis.
*Shattinger, Chas., St. Louis.
†Shaw, J. W., St. Louis.
†Sheets, M. E., St. Louis.
Shotwell, J. R., Curryville.
*Siering, H. J. C., St. Louis.
*Slayden, J. L., Dexter.
Sloan, O. J., Neosho.
Smith, Avis E., St. Louis.
*Smith, J. K., Fredericktown.
*Spencer, H. N., St. Louis.
*Stewart, James, St. Louis.
†Stocking, L. C., St. Louis.
*Teel, S. M., Prairie Home.
†Temm, L. N., St. Louis.
*Tiller, J. A., Bloomfield.
Tinsley, G. N., Bowling Green.
†Titsworth, Guy, Sedalia.
*Todd, W. T., Thompson.
*Taney, L. E., Piedmont.
Unsell, J. R., Louisiana.
Vaughn, H. C., Shelbina.
*Walters, C. E., Dexter.
*Ward, E. P., St. Louis.
†Weiss, R. S., St. Louis.
†Welch, W. A., Callao.
*Well, Wm., Versailles.
*Wheeler, W. S., Kansas City.
†Wilkes, B. A., St. Louis.
Williams, D. E., Pacific.
Williams, P. E., Tipton.
†Wright, L. S., Lowry City.
*Yount, W. E., Cape Girardeau.

MONTANA

Fuller, A. G., Iron Mountain.

NEBRASKA

Reghtol, J. V., Hastings.
†Hamel, E. B., Hastings.
Lee, D. R., Arcadia.
†Lynch, Albert, Fairbury.
Nye, F. H., Plainview.
*Powell, E. W., Omaha.

NEW HAMPSHIRE

Chirurg, Chas., Manchester.

NEW JERSEY

Barwis, Elmer, Trenton.
Campbell, C. M., Paterson.
Clay, T. A., Paterson.
†Danzis, Max, Newark.
Jennings, C. H., Merchantville.
DeMerritt, C. L., West Hoboken.
Forney, N. N., Milltown.
Lamy, A. W., Elizabeth.
Marks, E. G., Arlington.
Maxson, C. B., Jersey City.
Mendenhall, D. D., Bordentown.
Murray, W. H., Plainfield.
*Parsonnet, Victor, Newark.
Schmidt, W. H., Atlantic City.
Stoddard, R. L., Rochester.
Woolley, J. S., Plainfield.

NEW MEXICO

*Smith, Clyn, Clovis.

NEW YORK

Comstock, Elizabeth, New York City.
Cruttenden, H. L., Morria.
Duke, W. C., Fredonia.
Guile, H. V., New York City.
Loewenstein, A. M., Rochester.
†March, C. A., Buffalo.
McKee, O. S., Buffalo.
Satterlee, H. S., New York City.
Soresi, A. L., New York City.
*Stearns, M. J., Ogdensburg.

NORTH CAROLINA

Dodds, S. A., Salisbury.
Hyatt, F. C., Waynesville.
Merritt, J. H., Woodsdale.
Norris, Philip, Rutherfordton.
Pierce, S. B., Durham.

NORTH DAKOTA

Campbell, C. C., Ashley.
Joyce, M. T., Harvey.
Towler, H. H., Stanton.
Trainor, M. E., Stanley.

OHIO

Axline, C. Z., Fultonham.
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†Manning, W. J., Cleveland.
†McKitrick, A. S., Kenton.
†Noble, H. S., St. Marys.
North, E. A., Cincinati.
Olmstead, D. S., Millersburg.
*Pomeroy, F. S., Chardon.
†Rockhill, C. S., Cincinnati.
*Rouse, W. L., Paintersville.
Silberman, Jacob, Cleveland.
Smith, A. B., Wellington.
*Stahl, S. S., Franklin.
†Tillotson, J. R., Delphos.
Townsend, F. W., Columbus.

OKLAHOMA

Beard, D. A., Westville.
*Bradshaw, J. T., Shawnee.
Caldwell, C. W., Chelsea.
†Clark, M. T., Temple.
*Conway, W. Q., Tulsa.
*Gaston, J. I., Kingston.
House, C. F., Hastings.
Howard, R. M., Oklahoma City.
*Howell, D. D., Nowata.
*Huffman, L. H., Hobart.
Keyes, Robert, Schoolton.
Noble, F. W., Guthrie.
Pendergraft, W. C., Hollis.
*Phelan, J. R., Oklahoma City.
Riley, J. T., El Reno.
*Strother, S. P., Altus.
†Tilly, W. T., Muskogee.
*Tollison, W. A., Eufaula.
*Will, A. A., Oklahoma City.
†Wilson, S. W., Lindsay.

OREGON

Reitzel, M. E., Dayton.
Taylor, M. B., Grass Valley.

PENNSYLVANIA

Bennett, W. F., Scranton.
†Boyd, D. H., Pittsburg.
Campbell, E. E., Butler.
Craig, J. J., Columbia.
Downs, R. N., Jr., Philadelphia.
Elliott, C. H., Brownsville.
Fox, G. T., Bristol.
King, J. J., Freeland.
Lenker, R. W., West Leesport.
McFate, J. C., Meadville.
Mowery, S. E., Mechanicsburg.
Murray, M. A., Wilkes Barre.
Nathen, David, Norristown.
Peet, E. L., Scranton.
Thompson, J. J., Carbondale.
White, W. C., Pittsburg.

TENNESSEE

†Breeding, W. J., Ravenscroft.
*Chapman, S. T., Halls.
*Farmer, W. S., Cookville.
*Crosthwait, G. W., Florence.
Dalton, W. B., Lillydale.
*Dupree, M. W., Bethel.
*Hargis, W. A., Hermitage.
Harrell, E. B., Unicoi.
*Johnston, C. H., Lexington.
Jones, J. T., Jackson.
*Lewis, J. R., Ripley.
*Medling, W. L., Dyer.
*Neblett, S. E., Southside.
*Porter, J. A., Ripley.
Smith, H. G., Chattanooga.
*Steele, J. B., Chattanooga.
*Venters, J. M., Portland.

TEXAS

*Anderson, R. B., Sherman.
†Baird, R. W., Dallas.
Brannin, E. B., Dallas.
†Brown, G. F., Sherman.
*Carey, J. W., Whitesboro.
†Decherd, H. B., Dallas.
*Dodson, J. E., Jr., Vernon.
*Ferriss, J. H., Henrietta.
Hale, J. F., Miles.
Lindahl, F. E., San Antonio.
*Neel, J. M., Dallas.
†Sherwood, M. W., Temple.
*Smoot, J. B., Dallas.
†Sorrells, C. C., Royse City.
Terrell, S. L., Dallas.

UTAH

Campbell, Henry, Logan.
Robinson, H. E., American Fork.

VIRGINIA

Hughes, T. J., Roanoke.
Love, J. M., Norfolk.
*Whitmore, W. S., Mt. Sidney.
Willis, A. M., Richmond.

WASHINGTON

Booth, J. R., Seattle.
Hoffman, C. B., Kent.
Nevitt, O. R., Raymond.
Oppenheimer, S. S., Spokane.
White, E. W., Pasco.
*Woolley, W. T., Seattle.
Young, E. W., Seattle.

WEST VIRGINIA

Anderson, J. C., Mucklow.
Carter, H. L., Danville.
Fittro, E. B., Salem.
Flowers, E. N., Clarksburg.
Fortney, F. D., Newburg.
Jones, E. C., Exchange.
Owen, B. A., Huntingdon.
Rankin, B. S., Tunnelton.

WISCONSIN

*Aplin, F. W., Waukesha.
†Finney, W. H., Clintonville.
Gillen, F. C., Milwaukee.
†Jefferson, H. A., Clintonville.
†Jenner, A. G., Milwaukee.
Maes, C. G., Kimberly.
†Ravenel, M. P., Madison.
Rea, J. T., Waldo.
*Smedal, Greggar, LaCrosse.
*Taugher, J. P., Milwaukee.
Wochos, F. J., Kewaunee.
Swickey, W. H., Superior.

CANAL ZONE

*Darling, S. T., Ancon.
Dutrow, H. V., Ancon.
*Earhart, T. W., Ancon.
*Phillips, C. E., Panama.

PHILIPPINE ISLANDS

Singian, Gregorio, Manila.

State Boards of Registration

COMING EXAMINATIONS

Alabama: Montgomery, July 12. Chairman, Dr. W. H. Sanders.

Connecticut: Regular, City Hall, New Haven, July 12-13. Sec., Dr. Charles A. Tuttle; Homeopathic, New Haven, July 12. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, New Haven, July 12. Sec., Dr. T. S. Hodge, 19 Main Street, Torrington.

District of Columbia: Washington, July 12-15. Sec., Dr. George C. Ober, 125 B Street, S. E.

Indiana: Room 120, State House, Indianapolis, July 12-14. Sec., Dr. W. T. Gott.

Maine: Augusta, July 19-20. Sec., Dr. F. W. Searle, Portland.

Massachusetts: State House, Boston, July 12-14. Sec., Dr. Edwin B. Harvey.

Oklahoma: Ione Hotel, Guthrie, July 12. Sec., Dr. Frank P. Davis, Enid.

South Dakota: Lead, July 13-14. Sec., Dr. F. W. Freyberg, Mitchell.

Vermont: Burlington, July 12-14. Sec., Dr. W. Scott Nay, Underhill.

West Virginia: Capitol Bldg., Charleston, July 11-13. Sec., Dr. H. A. Barbee, Point Pleasant.

Wisconsin: Madison, July 12-15. Sec., Dr. John M. Beffel, 3200 Clybourn Street, Milwaukee.

Nebraska February Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Feb. 9, 1910. The number of subjects examined in was 13; total number of questions asked, 130; percentage required to pass, 75. *Only one candidate, a graduate of Lincoln Medical* College, 1906, was examined, and he passed with a grade of 86.8 per cent. Twenty candidates have been licensed through reciprocity since Jan. 1, 1910. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with.
Denver Homeopathic College	(1906)	Colorado
Northwestern University Medical School	(2, 1908)	Illinois
College of Physicians and Surgeons, Chicago (1905) (1906)	(1907)	Illinois
Jenner Medical College	(1909)	Illinois
Rush Medical College	(1886)	Indiana
Bennett Medical College	(1908)	Missouri
Keokuk Medical College	(2, 1895)	Iowa
Keokuk Med. Coll., Coll. of Phys. and Surgs.	(1906)	Iowa
University of Michigan, College of Medicine	(1909)	Missouri
Tufts College Medical School	(1907)	Maine
Barnes University	(1903) (1906)	Missouri
St. Louis College of Physicians and Surgeons	(1899)	Missouri
Creighton Medical College	(1909)	Iowa
University of Vermont, College of Medicine	(1898)	Vermont
Royal University, Paria, Italy	(1890)	Kansas

Florida April Report

Dr. J. D. Fernandez, secretary of the Florida State Board of Medical Examiners, reports the written examination held at Jacksonville, April 2-5, 1910. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 38, of whom 32 passed and 6 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1909)	85.2
University of Arkansas	(1908)	83
Howard University	(1907)	93
Atlanta College of Physicians and Surgeons	(1907) (1908) (1909)	75 75 75
Medical College of Georgia	(1892)	75
Rush Medical College	(1893)	80.8
Chicago Medical College	(1875)	75
College of P. & S., Indianapolis	(1883)	75
University of Iowa, College of Medicine	(1881)	76.8
University of Maryland	(1909)	85.2
Harvard Medical School	(1906)	92.2
Barnes Medical College	(1896)	75.6
Albany Medical College	(1892)	82
Columbia University, College of P. & S.	(1889)	79.5
North Carolina Medical College	(1908)	92.1
Miami Medical College	(1874)	75
University of Pennsylvania	(1895) (1896)	77.2 75
Jefferson Medical College	(1902) (1906)	81.7 91.2
Vanderbilt University	(1905)	86.5
University of the South	(1907)	78.7
University of Tennessee	(1909)	80.5
Memphis Hospital Medical College	(1908)	75
Medical College of the State of South Carolina	(1881) (1909)	75 82, 84.7
University of Vermont	(1892)	75
University of Munich, Germany	(1878)	85.5
University of Havanna, Cuba	(1908)	77.3

FAILED

College	Year Grad.	Per Cent.
Georgia College of Eclectic Medicine and Surgery	(1891)	47.7
Atlanta College of Physicians and Surgeons	(1909)	56.4
Medical College of Georgia	(1906)	64
Meharry Medical College	(1909)	67.7
Gate City Medical College	(1903)	60.8
University of Havana, Cuba	(1908)	77.3

The following questions were asked:

ANATOMY

1. What bones enter into the formation of the skull? 2. Name the bones of the hand. 3. Describe the diaphragm and name its openings. 4. Give the boundaries of scarpa's triangle and name its contents. 5. What nerves supply the tongue and give function of each? 6. Give origin, course and distribution of the left pneumogastric nerve. 7. Name the branches of the arch of the aorta. 8. Describe the pulmonary artery. *What function does it perform?* 9. Name the muscles of the abdomen. 10. Name the muscles of the orbit and give function of each.

PHYSIOLOGY

1. What is the difference between serous and synovial membranes? Name the serous membranes. 2. What is the difference between a *secretion and an excretion? Name three of each.* 3. Describe the process of breathing. How does the blood become oxygenated in the lungs? 4. Describe the mechanism of the production of the voice, and how is the pitch changed from one key to another? 5. Describe the vision. Why does the pupil dilate and contract? 6. Describe the general arrangement of the cerebrospinal axis and the functions of the white and gray matter. 7. What is the effect of the pneumogastric nerve on the heart? 8. What are the component *parts of blood and the function of each part?* 9. Describe the action and relative time of action of each of the valves of the heart. 10. How and where are carbohydrates converted, during digestion?

SURGERY

1. Give symptoms and treatment of shock. 2. What are the sources of *wound infection? 3. What are the constitutional* symptoms in severe burns, and what is the *treatment?* 4. Give treatment in case of large, irregular foreign body in the eyeball. 5. Give symptoms and treatment of chronic suppuration of the middle ear. 6. Give *diagnosis between fracture of lower end of* humerus and dislocation of forearm backward. 7. How would you reduce a sub*coracoid dislocation? 8. Give symptoms and treatment* of fracture at the base of the skull. 9. What is the most common site of fracture of the *clavicle, and how would you treat it? 10. Give symptoms* and treatment of cholelithiasis.

GYNECOLOGY

1. Give indications and contraindications for the use of the curette. 2. State under what conditions hysterectomy for cancer of the uterus is not justifiable; how determined, and give treatment in inoperable cases. 3. Give symptoms, diagnosis and differential diagnosis for submucous fibromyoma. 4. Give causes, symptoms and treatment for various forms of dysmenorrhea. 5. Differential diagnosis of ascites from ovarian cyst. 6. Describe in detail operation for complete laceration of perineum, involving rectovaginal septum. 7. Describe operation for removal of intraligamentous myoma. 8. Give description as to treatment of abscess of the cul-de-sac of *Douglas.* 9. Give symptoms of pelvic hematocele? 10. Outline symptoms of torsion of pedicle of ovarian cyst.

MATERIA MEDICA—THERAPEUTICS

1. What is incompatibility in medicine, and what are the different kinds of incompatibles? Give an example of *each.* 2. Why should you prescribe the salts of the alkaloids instead of the alkaloids themselves? 3. Mention three drugs used in the treatment of *intermittent fever. State how each* controls this disease. 4. Give the theory of the alkaline treatment of rheumatism. 5. What remedies would you employ to correct anemic *conditions, and how are they used? 6. Define* an antiseptic agent. Mention two *important intestinal* antiseptics, the diseases in which they are *indicated and explain how* they are used. 7. How should ophthalmia neonatorum be prevented and how treated? 8. In what conditions may cathartics be useful in the treatment of diarrhea or *dysentery? 9. Name some conditions in* which the bromids are indicated and state your method of giving them in large doses. 10. The dose of medicine *given by* the mouth being 1 grain, what would be the equivalent dose for hypodermic use and what for administration by the rectum?

OBSTETRICS

1. What are the boundaries *and dimensions* of the outlet of the pelvis? 2. Name the presumptive and positive signs of pregnancy. 3. Give leading points in the diet and hygiene of *pregnancy.* 4. Define ovum, *spermatozoon,* embryo, fetus, abortion. 5. On what grounds is it proper to produce an abortion? 6. What should the obstetrician's bag contain? 7. Describe the formation of the placenta and give its function. 8. If called to give evidence in a court of justice, how would you determine whether *rape had been* committed? 9. What is the *significance* of albuminuria in pregnancy? Its treatment. 10. Describe the proper treatment of a shoulder presentation.

CHEMISTRY

1. Define the terms, chemical affinity, valence, decomposition of compounds, the nascent state and basic substances. 2. Express in chemical equation the reaction resulting from the combination (in solution), of sodium carbonate and calcium chlorid. 3. Mention the properties of nitrogen. 4. What remedies are usually employed in treating an acute case of phosphorus poisoning? 5. How would you treat a case of bichlorid of mercury poisoning? 6. What are the local and constitutional symptoms of carbolic-acid poisoning? 7. Enumerate the domestic remedies used as antidotes in poisoning by caustic potash and caustic soda. 8. What is the general mode of obtaining alkaloids? 9. How do you determine the nature of a white precipitate thrown down by boiling a specimen of urine? 10. Describe the method of preparing Haine's test solution for sugar and how used.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

THE MEDICAL SECTS*

In the reconstruction just sketched no allusion has been made to medical sectarianism. We have considered the making of doctors and the increase of knowledge; allopathy, homeopathy, osteopathy, have cut no figure in the discussion. Is it essential that we should now conclude a treaty of peace, by which the reduced number of medical schools shall be so pro-rated as to recognize dissenters on an equitable basis?

The proposition raises at once the question as to whether in this era of scientific medicine, sectarian medicine is logically defensible; as to whether, while it exists, separate standards, fixed by conditions under which it can survive, are justifiable. Prior to the placing of medicine on a scientific basis sectarianism was, of course, inevitable. Every one started with some sort of preconceived notion, and from a logical point of view one preconception is as good as another. Allopathy was just as sectarian as homeopathy. Indeed, homeopathy was the inevitable retort to allopathy. If one man "believes" in dissimilars contrary suggestion is certain to provide another who will stake his life on similars; the champion of big doses will be confronted by the champion of little ones. But now that allopathy has surrendered to modern medicine, is not homeopathy borne on the same current into the same harbor?

The modern point of view may be restated as follows: Medicine is a discipline in which the effort is made to use knowledge procured in various ways in order to effect certain practical ends. With abstract general propositions it has nothing to do. It harbors no preconceptions as to diseases or their cure. Instead of starting with a finished and supposedly adequate dogma or principle it has progressively become less cock-sure and more modest. It distrusts general propositions, *a priori* explanations, grandiose and comforting generalizations. It needs theories only as convenient summaries in which a number of ascertained facts may be used tentatively to define a course of action. It makes no effort to use its discoveries to substantiate a principle formulated before the facts were even suspected. For it has learned from the previous history of human thought that men possessed of vague preconceived ideas are strongly disposed to force facts to fit, defend, or explain them. And this tendency both interferes with the free search for truth and limits the good which can be extracted from such truth as is in its despite attained.

Modern medicine has therefore as little sympathy for allopathy as for homeopathy. It simply denies outright the relevancy or value of either doctrine. It wants not dogma, but facts. It countenances no presupposition that is not common to it with all the natural sciences, with all logical thinking.

The sectarian, on the other hand, begins with his mind made up. He possesses in advance a general formula, which the particular instance is going to illustrate, verify, reaffirm, even though he may not know just how. One may be sure that facts so read will make good what is expected of them; that only that will be seen which will sustain its expected function; that every aspect noted will be dutifully loyal to the revelation in whose favor the observer is predisposed; the human mind is so constituted.

It is precisely the function of scientific method—in social life, politics, engineering, medicine—to get rid of such hindrances to clear thought and effective action. For it, comprehensive summaries are situate in the future, not in the past; we shall attain them, if at all, at the end of great travail; they are not lightly to be assumed prior to the beginning. Science believes slowly; in the absence of crucial demonstration its mien is humble, its hold is light. "One should not teach dogmas; on the contrary, every utterance must be put to the proof. One should not train disciples, but form observers; one must teach and work in the spirit of natural science."[1]

Scientific medicine therefore brushes aside all historic dogma. It gets down to details immediately. No man is asked in whose name he comes—whether that of Hahnemann, Rush, or of some more recent prophet. But all are required to undergo rigorous cross-examination. Whatsoever makes good is accepted, becomes in so far part, and organic part, of the permanent structure. To plead in advance a principle couched in pseudo-scientific language or of extra-scientific character is to violate scientific quality. There is no need, just as there is no logical justification, for the invocation of names or creeds, for the segregation from the larger body of established truth of any particular set of truths or supposed truths as especially precious. Such segregation may easily invest error with the sanctity of truth; it will certainly result in conferring disproportionate importance on the fact or procedure marked out as of pivotal significance. The tendency to build a system out of a few partially apprehended facts, deductive inference filling in the rest, has not indeed been limited to medicine, but it has nowhere else had more calamitous consequences.

The logical position of medical sectarians to-day is self-contradictory. They have practically accepted the curriculum as it has been worked out on the scientific bases. They teach pathology, bacteriology, clinical microscopy. They are thereby committed to the scientific method; for they aim to train the student to ascertain and interpret facts in the accepted scientific manner. He may even learn his sciences in the same laboratory as the non-sectarian. But scientific method cannot be limited to the first half of medical education. The same method, the same attitude of mind, must consistently permeate the entire process. The sectarian therefore in effect contradicts himself when, having pursued or having agreed to pursue the normal scientific curriculum with his students for two years, he at the beginning of the third year produces a novel principle and requires that henceforth the student effect a compromise between science and revelation.

Once granted the possibility of medical dogma, there can be no limit to the number of dissenting sects. As a matter of fact, only three or four are entitled to serious notice in an educational discussion. The chiropractics, the mechanotherapists, and several others are not medical sectarians, though exceedingly desirous of masquerading as such; they are unconscionable quacks, whose printed advertisements are tissues of exaggeration, pretense, and misrepresentation of the most unqualifiedly mercenary character. The public prosecutor and the grand jury are the proper agencies for dealing with them.

Sectarians, in the logical sense above discussed, are (1) the homeopathists, (2) the eclectics, (3) the physiomedicals, (4) the osteopaths. All of them accept in theory, at least, the same fundamental basis. They admit that anatomy, pathology, bacteriology, physiology, must form the foundation of a medical education, to use the words broadly so as to include all varieties of therapeutic procedure. They offer no alternative to pathology or physiology; there is, they concede, only one proper science of the structure of the human body, of the abnormal growths that afflict it. So far, they make no issue as against scientific medicine. Much is involved in agreement up to this point. The standards of admission to the medical school, the facilities which the schools must furnish in order effectively to teach the fundamental branches, are the same for all alike. A student of homeopathy or of osteopathy needs to be just as intelligent and mature as a student of scientific medicine; and he is no easier to teach; for during the first and second years, at least, he is supposed to be doing precisely the same things.

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* Extract from Chapter X of the Flexner report to the Carnegie Foundation for the Advancement of Teaching. A copy of the complete report may be obtained by sending 17 cents for postage to the Carnegie Foundation, 576 Fifth Ave., New York City.

[1] Orth, Johannes: Berl. klin. Wchnschr., xliii, p. 818.

At the beginning of the clinical years, the sectarian interposes his special principle. But educationally, the conditions he needs thenceforth do not materially differ from those needed by consistently scientific medicine. Once more, whatever the arbitrary peculiarity of the treatment to be followed, the student cannot be trained to recognize clinical conditions, to distinguish between different clinical conditions, or to follow out a line of treatment, except in the ways previously described in dealing with scientific medicine. He must see patients and must follow their progress, so as to discover what results take place in consequence of the specific measures employed. A sectarian institution, being a school in which students are trained to do particular things, needs the same resources and facilities on the clinical side as a school of scientific medicine.

Sectarian institutions do not exist in Canada; in the United States there are 32 of them, of which 15 are homeopathic, 8 eclectic, 1 physiomedical, and 8 osteopathic. . . .

HOMEOPATHIC COLLEGES

None of the fifteen homeopathic schools[2] requires more than a high school education for entrance; only five[4] require so much. The remaining eleven got less—how much less depending on their geographic locations rather than on the school's own definition. . . .

On the laboratory side, though the homeopaths admit the soundness of the scientific position, they have taken no active part in its development. Nowhere in homeopathic institutions, with the exception of one or two departments at Boston University, is there any evidence of progressive scientific work. Even "drug proving" is rarely witnessed. The fundamental assumption of the sect is sacred; and scientific activity cannot proceed where any such interdict is responsible for the spirit of the institution. The homeopathic departments at Iowa and Michigan are in this respect only half-schools—clinical halves. For their students get their scientific instruction in pathology, anatomy, etc., in the only laboratories which the university devotes to those subjects, under men none of whom sympathize with homeopathy. Their disadvantage is increased by the fact that the instruction is adapted to students who have had one or two years of college work. The general argument in favor of higher standards is here reinforced by the consideration that the homeopathic students should certainly qualify themselves for the only grade of scientific instruction that the two universities offer.

Of complete homeopathic schools, Boston University, the New York Homeopathic College, and the Hahnemann of Philadelphia alone possess the equipment necessary for the effective routine teaching of the fundamental branches. None of them can employ full-time teachers to any considerable extent. But they possess fairly well-equipped laboratories in anatomy, pathology, bacteriology and physiology, a museum showing care and intelligence, and a decent library. Boston University deserves especial commendation for what it has accomplished with its small annual income. . . .

In respect to hospital facilities, the University of Michigan, Boston University, and the New York Homeopathic alone command an adequate supply of material, under proper control, though modern teaching methods are not thoroughly utilized even by them. The Iowa school controls a small, but inadequate, hospital. All the others are seriously handicapped by either lack of material or lack of control, and in most instances by both. . . .

The dispensary situation is rather worse. Iowa and Ann Arbor have little opportunity. Of the others, Boston University alone has a really model dispensary, comparing favorably in equipment, organization and conduct with the best institutions of the kind in the country. The New York Homeopathic, the Chicago Hahnemann, and the Philadelphia Hahnemann command material enough. The others lack material, equipment or care; in some instances they lack everything that a dispensary should possess.

Financially, the two state university departments and the New York homeopathic schools are the only homeopathic schools whose strength is greater than their fee income. All the others are dependent on tuition. Their outlook for higher entrance standards or improved teaching is, therefore, distinctly unpromising. . . .

In the year 1900 there were twenty-two homeopathic colleges in the United States; to-day there are fifteen; the total student enrolment has within the same period been cut almost in half, decreasing from 1909 to 1009[9]; the graduating classes have fallen from 413 to 246. As the country is still poorly supplied with homeopathic physicians, these figures are ominous; for the rise of legal standard must inevitably affect homeopathic practitioners. In the financial weakness of their schools, the further shrinkage of the student body will inhibit first the expansion, then the keeping up of the sect.

Logically, no other outcome is possible. The ebbing vitality of homeopathic schools is a striking demonstration of the incompatibility of science and dogma. One may begin with science and work through the entire medical curriculum consistently, exposing everything to the same sort of test; or one may begin with a dogmatic assertion and resolutely refuse to entertain anything at variance with it. But one cannot do both. One cannot simultaneously assert science and dogma; one cannot travel half the road under the former banner, in the hope of taking up the latter, too, at the middle of the march. Science, once embraced, will conquer the whole. Homeopathy has two options: one to withdraw into the isolation in which alone any peculiar tenet can maintain itself; the other to put that tenet into the melting-pot. Historically it undoubtedly played an important part in discrediting empirical allopathy. But laboratories of physiology and pharmacology are now doing that work far more effectively than homeopathy; and they are at the same time performing a constructive task for which homeopathy, as such, is unfitted. It will be clear, then, why, when outlining a system of schools for the training of physicians on scientific lines, no specific provision is made for homeopathy. For everything of proved value in homeopathy belongs of right to scientific medicine and is at this moment incorporate in it; nothing else has any footing at all, whether it be of allopathic or homeopathic lineage. "A new school of practitioners has arisen," says Dr. Osler, "which cares nothing for homeopathy and less for so-called allopathy. It seeks to study, rationally and scientifically, the action of drugs, old and new.

ECLECTIC COLLEGES

There are eight eclectic schools.[10] One of them—that in New York City—requires the regents' medical student certificate, i. e., a four-year high school education, for admission; the Cincinnati school must require an equal preliminary education of students expecting to practice in Ohio, others taking the matter into their own hands. Just how the instruction is thus accommodated to various levels is not clear. The remaining six schools have either nominal requirements or none at all.

None of the schools has anything remotely resembling the laboratory equipment which all claim in their catalogues. The Cincinnati institution possesses a new and attractive building, thus far meagerly fitted out; the New York school has a clean building with a chemical laboratory in which elementary chemistry can be and apparently is taught properly. It has little else; a small room for the microscopic subjects, but no adequate equipment for teaching them; a few thousand books, mostly old; a few models, a lantern, etc.—and this is the most satisfactorily equipped of all the eclectic institutions. . . .

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[2] Hahnemann (San Francisco), Hahnemann and Hering (Chicago), state universities of Iowa and Michigan, Southwestern Homeopathic (Louisville), Boston University, Detroit Homeopathic, Kansas City (Kansas) Hahnemann, New York Medical College for Women, New York Homeopathic, Pulte (Cincinnati), Cleveland Homeopathic, Hahnemann (Philadelphia), Atlantic Medical (Baltimore).

[4] State universities of Iowa and Michigan, Detroit Homeopathic, and the two New York schools

[9] Jour. Am. Inst. Homeopathy, 1909, No. 11, i, 537; The Journal A. M. A., Aug. 14, 1909, pp. 556, 557, gives figures somewhat lower; 889 instead of 1009; 209 instead of 246. The discrepancy does not alter our interpretation.

[10] One each at Los Angeles, Kansas City (Kansas), St. Louis, Lincoln (Nebraska), Cincinnati, New York City, and two at Atlanta.

So far as sectarian creeds go, there is, of course, no reason why these schools should be elaborately equipped for scientific instruction. They talk of laboratories, not because they appreciate their place or significance, but because it pays them to defer thus far to the spirit of the times. Culpable indeed they are, however, for their utter failure to make good what their own tenets prescribe. The eclectics are drug mad; yet, with the exception of the Cincinnati and New York schools, none of them can do justice to its own creed. For they are not equipped to teach the drugs or the drug therapy which constitutes their sole reason for existence.[11]

OSTEOPATHIC COLLEGES

The eight osteopathic schools[12] fairly reek with commercialism. Their catalogues are a mass of hysterical exaggeration, alike of the earning and of the curative power of osteopathy. It is impossible to say on which score the "science" most confidently appeals to the crude boys or disappointed men and women whom it successfully exploits. "In no case has a competent osteopath made a failure in his attempt to build up a paying practice. . . . His remuneration, counted in dollars, will be greatly in excess of what he could reasonably expect in most other lines of professional work."[13] "It is only fair to say that many of our graduates are earning as much in single months as they were formerly able to earn by a full year's work."[14] "The average osteopath has a better practice than ninety out of every hundred medical practitioners."[15] "A lucrative practice is assured to every conscientious and capable practitioner."[16] "The graduate who does not make as much as the total cost of his osteopathic education in his first year of practice is the exception."[17] Standards these concerns have none; the catalogues touch that point very tenderly. At the parent school at Kirksville an applicant will be accepted "if he pass examinations in English, arithmetic, history and geography;" but if he should fail to meet these lofty scholastic requirements, he may be admitted anyway. In Massachusetts—the most homogeneously educated state in the Union—the Cambridge school diplomatically posts that "a diploma may be accepted or an examination be required if deemed advisable by the directors"—the word "is" being conspicuous by its absence; the Pacific College, "chancing it," finds that "most make good."

Whatever his notions on the subject of treatment, the osteopath needs to be trained to recognize disease and to differentiate one disease from another quite as carefully as any other medical practitioner. Our account of the sect proceeds wholly from this point of view. Whether they use drugs or do not use them, whether some use them while others do not, does not affect this fundamental question. Whatever they do, they must know the body, in health and disease, before they can possibly know whether there is an occasion for osteopathic intervention, and if so, at what point, to what extent, etc. All physicians, summoned to see the sick, are confronted with precisely the same crisis: a body out of order. No matter to what remedial procedure they incline—medical, surgical, or manipulative—they must first ascertain what is the trouble. There is only one way to do that. The osteopaths admit it, when they teach physiology, pathology, chemistry, microscopy. Let it be stated, therefore, with all possible emphasis that no one of the eight osteopathic schools is in position to give such training as osteopathy itself demands. The entire course is only three years. In so simple and fundamental matter as anatomy—assuredly the corner-stone of a "science" that relies wholly on local manipulation—they are fatally defective. At Kirksville the accommodations are entirely unequal to the teaching of its huge student body. Hence the first year is devoted to text-book study of anatomy, part of the second year to dissection; at Kansas City they consider that the student dissects better if he has learned anatomy first; hence dissection comes in the latter half of the course, being completed just one-half year before graduation. The supply of material is also scant; the school had had one cadaver early in the fall and was looking ahead to a second the latter part of the winter. The Los Angeles college has a small room with five tables for a student body numbering 250; it solves the difficulty by giving separate squads two hours a week each. At Philadelphia the department of anatomy occupies an outhouse, whence the noisome odor of decaying cadavers permeates the premises. Other subjects fare even worse. A small chemical laboratory is occasionally seen—at Philadelphia it happens to be in a dark cellar. At Kirksville a fair-sized room is devoted to pathology and bacteriology; the huge classes are divided into bands of 32, each of which gets a six weeks' course, following the directions of a rigid syllabus under a teacher who is himself a student. At Cambridge pathology comes in the last year. A professor in the Kansas City school said of his own institution that it had practically no laboratory at all; the Still College at Des Moines has, in place of laboratories, laboratory signs; the Littlejohn at Chicago, whose catalogue avers that the "physician should be imbued with a knowledge of the healing art in its widest fields, and here is the opportunity,"[18] has lately in rebuilding wrecked all its laboratories but that of chemistry without in the least interfering with its usual pedagogic routine.[19] . . .

The mercenary character of osteopathic instruction is nowhere more conspicuously displayed than in the dispensaries, designed in theory to turn a humanitarian impulse to educational account. The osteopathic schools insert a cash nexus: the patients almost always pay. At Kansas City students give treatment to patients who pay three dollars a month; those paying more are treated by the professors. At Kirksville two dollars a treatment is charged. The cases are mostly chronics, an instructor being present at the first treatment; afterward, only if summoned. At Los Angeles the cheapest obtainable treatment is three dollars for "examination" and one month's treatment before the class; at Des Moines the "professor administers to high-priced patients, the students to others."

The eight osteopathic schools now enroll over 1300 students, who pay some $200,000 annually in fees. The instruction furnished for this sum is inexpensive and worthless. Not a single full-time teacher is found in any of them. The fees find their way directly into the pockets of the school owners, or into school buildings and infirmaries that are equally their property. No effort is anywhere made to utilize prosperity as a means of defining an entrance standard or developing the "science."[20] Granting all that its champions claim, osteopathy is still in its incipiency. If sincere, its votaries would be engaged in critically building it up. They are doing nothing of the kind. Indeed, in none of the sectarian schools does one observe progressive effort even along the lines of its own creed. And very naturally: dogma is sufficient unto itself. It may not search its own assumptions; it does well to adopt from the outside, after forced restatement in its own terms.[21]

In dealing with the medical sectary, society can employ no special device. Certain profound characteristics in one way or another support the medical dissenter: now, the primitive belief in magic crops up in his credulous respect for an impotent drug; again, all other procedure having failed, what is there to lose by flinging one's self on the mercy of chance? Instincts so profound cannot be abolished by statute. But the limits within which they can play may be so regulated as to forbid alike their commercial and their crudely ignorant exploitation. The law may require that all practitioners of the healing art comply with a rigidly enforced pre-needs to be just as intelligent and mature as a student of scientific medicine; and he is no easier to teach; for during the first and second years, at least, he is supposed to be doing precisely the same things.

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[11] The physiomedical sect can be dismissed in a note. It had three schools in 1907; only one, that in Chicago, is left. There were 149 physiomedical students in 1904; there are now 52; there were 20 graduates in that year, 15 in 1909.

[12] One school is found in each of the following cities: Chicago, Des Moines, Kirksville (Missouri), Kansas City (Missouri), Philadelphia, Cambridge (Massachusetts), and two at Los Angeles.

[13] Catalogue, Pacific College of Osteopathy, 1909-10, p. 9.

[14] Catalogue, Los Angeles College of Osteopathy, 1909-10, p. 9.

[15] Catalogue, Central College of Osteopathy, 1908-9, p. 22.

[16] Catalogue, Philadelphia College of Osteopathy, 1909-10, p. 48.

[17] Catalogue, Massachusetts College of Osteopathy, 1909-10, p. 10.

[18] Bulletin, June 15, 1909, p. 7.

[19] This school teaches medicine as well as osteopathy. It offers instruction in materia medica and therapeutics, practice of medicine—and yet it is a three-year school.

[20] At the Pacific College of Osteopathy alone were two workers doing some research.

[21] In this fashion homeopathy handles sero-therapy as a case of similars.

At the beginning of the clinical years, the sectarian interposes his special principle. But educationally, the conditions he needs thenceforth do not materially differ from those needed by consistently scientific medicine. Once more, whatever the arbitrary peculiarity of the treatment to be followed, the student cannot be trained to recognize clinical conditions, to distinguish between different clinical conditions, or to follow out a line of treatment, except in the ways previously described in dealing with scientific medicine. He must see patients and must follow their progress, so as to discover what results take place in consequence of the specific measures employed. A sectarian institution, being a school in which students are trained to do particular things, needs the same resources and facilities on the clinical side as a school of scientific medicine.

Sectarian institutions do not exist in Canada; in the United States there are 32 of them, of which 15 are homeopathic, 8 eclectic, 1 physiomedical, and 8 osteopathic. . . .

HOMEOPATHIC COLLEGES

None of the fifteen homeopathic schools[2] requires more than a high school education for entrance; only five[4] require so much. The remaining eleven got less—how much less depending on their geographic locations rather than on the school's own definition. . . .

On the laboratory side, though the homeopaths admit the soundness of the scientific position, they have taken no active part in its development. Nowhere in homeopathic institutions, with the exception of one or two departments at Boston University, is there any evidence of progressive scientific work. Even "drug proving" is rarely witnessed. The fundamental assumption of the sect is sacred; and scientific activity cannot proceed where any such interdict is responsible for the spirit of the institution. The homeopathic departments at Iowa and Michigan are in this respect only half-schools—clinical halves. For their students get their scientific instruction in pathology, anatomy, etc., in the only laboratories which the university devotes to those subjects, under men none of whom sympathize with homeopathy. Their disadvantage is increased by the fact that the instruction is adapted to students who have had one or two years of college work. The general argument in favor of higher standards is here reinforced by the consideration that the homeopathic students should certainly qualify themselves for the only grade of scientific instruction that the two universities offer.

Of complete homeopathic schools, Boston University, the New York Homeopathic College, and the Hahnemann of Philadelphia alone possess the equipment necessary for the effective routine teaching of the fundamental branches. None of them can employ full-time teachers to any considerable extent. But they possess fairly well-equipped laboratories in anatomy, pathology, bacteriology and physiology, a museum showing care and intelligence, and a decent library. Boston University deserves especial commendation for what it has accomplished with its small annual income. . . .

In respect to hospital facilities, the University of Michigan, Boston University, and the New York Homeopathic alone command an adequate supply of material, under proper control, though modern teaching methods are not thoroughly utilized even by them. The Iowa school controls a small, but inadequate, hospital. All the others are seriously handicapped by either lack of material or lack of control, and in most instances by both. . . .

The dispensary situation is rather worse. Iowa and Ann Arbor have little opportunity. Of the others, Boston University alone has a really model dispensary, comparing favorably in equipment, organization and conduct with the best institutions of the kind in the country. The New York Homeopathic, the Chicago Hahnemann, and the Philadelphia Hahnemann command material enough. The others lack material, equipment or care; in some instances they lack everything that a dispensary should possess.

Financially, the two state university departments and the New York homeopathic schools are the only homeopathic schools whose strength is greater than their fee income. All the others are dependent on tuition. Their outlook for higher entrance standards or improved teaching is, therefore, distinctly unpromising. . . .

In the year 1900 there were twenty-two homeopathic colleges in the United States; to-day there are fifteen; the total student enrolment has within the same period been cut almost in half, decreasing from 1909 to 1009[9]; the graduating classes have fallen from 413 to 246. As the country is still poorly supplied with homeopathic physicians, these figures are ominous; for the rise of legal standard must inevitably affect homeopathic practitioners. In the financial weakness of their schools, the further shrinkage of the student body will inhibit first the expansion, then the keeping up of the sect.

Logically, no other outcome is possible. The ebbing vitality of homeopathic schools is a striking demonstration of the incompatibility of science and dogma. One may begin with science and work through the entire medical curriculum consistently, exposing everything to the same sort of test; or one may begin with a dogmatic assertion and resolutely refuse to entertain anything at variance with it. But one cannot do both. One cannot simultaneously assert science and dogma; one cannot travel half the road under the former banner, in the hope of taking up the latter, too, at the middle of the march. Science, once embraced, will conquer the whole. Homeopathy has two options: one to withdraw into the isolation in which alone any peculiar tenet can maintain itself; the other to put that tenet into the melting-pot. Historically it undoubtedly played an important part in discrediting empirical allopathy. But laboratories of physiology and pharmacology are now doing that work far more effectively than homeopathy; and they are at the same time performing a constructive task for which homeopathy, as such, is unfitted. It will be clear, then, why, when outlining a system of schools for the training of physicians on scientific lines, no specific provision is made for homeopathy. For everything of proved value in homeopathy belongs of right to scientific medicine and is at this moment incorporate in it; nothing else has any footing at all, whether it be of allopathic or homeopathic lineage. "A new school of practitioners has arisen," says Dr. Osler, "which cares nothing for homeopathy and less for so-called allopathy. It seeks to study, rationally and scientifically, the action of drugs, old and new.

ECLECTIC COLLEGES

There are eight eclectic schools.[10] One of them—that in New York City—requires the regents' medical student certificate, i. e., a four-year high school education, for admission; the Cincinnati school must require an equal preliminary education of students expecting to practice in Ohio, others taking the matter into their own hands. Just how the instruction is thus accommodated to various levels is not clear. The remaining six schools have either nominal requirements or none at all.

None of the schools has anything remotely resembling the laboratory equipment which all claim in their catalogues. The Cincinnati institution possesses a new and attractive building, thus far meagerly fitted out; the New York school has a clean building with a chemical laboratory in which elementary chemistry can be and apparently is taught properly. It has little else; a small room for the microscopic subjects, but no adequate equipment for teaching them; a few thousand books,

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[2] Hahnemann (San Francisco), Hahnemann and Hering (Chicago), state universities of Iowa and Michigan, Southwestern Homeopathic [illegible] Boston University, Detroit Homeopathic, Kansas City [illegible] New York Medical College for Women, New [illegible] Pulte (Cincinnati), Cleveland Homeopathic, Hahnemann (Philadelphia), Atlantic Medical (Baltimore).

[4] State universities of Iowa and Michigan, Detroit Homeopathic, and the two New York schools.

[9] Jour. Am. Inst. Homeopathy, 1909, No. 11, i, 537; The Journal A. M. A., Aug. 14, 1909, pp. 556, 557, gives figures somewhat lower; 889 instead of 1009; 209 instead of 246. The discrepancy does not alter our interpretation.

[10] One each at Los Angeles, Kansas City (Kansas), St. Louis, Lincoln (Nebraska), Cincinnati, New York City, and two at Atlanta.

Case of Holoacardius Acephalus.—A case of holoacardius acephalus has been reported by Harry Jackson (*Tr. Chicago Path. Soc.*, April 1, 1910). The case occurred in the practice of Dr. A. E. Budde, Norway, Mich. The mother was 19 years of age and the pregnancy a second one of nine months' duration. The diagnosis had been pregnancy with tumor. A normal, viable, 3½ pound male child was delivered, followed by the supposed tumor, which showed a body and two legs, the head and arms being absent. The legs were of uneven length. There were no toes. Two cm. from the anterior extremity of the body was a hernial sac at the site of the umbilicus which contained cells of small intestine, and to the sac the cord was attached. Two cm. from the posterior extremity on the ventral surface was a small penis-like structure. There was no anal opening. The radiograph showed a fairly well-developed skeleton. There were eight ribs on each side of the vertebral column of 14 vertebra. The scapulæ were present but there were no clavicles or bones of the arms or skull. Having no heart, the specimen was dependent on the heart of a twin fetus for its circulation. The two fetuses had their origin in a single ovum as is evidenced by the single placenta and single chorion.

Book Notices

MODERN MEDICINE. Its Theory and Practice in Original Contributions by American and Foreign Authors. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University, assisted by Thomas McCrae, M.D., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. VII, Diseases of the Nervous System. Cloth. Price, $6 net. Pp. 969, with illustrations. Philadelphia: Lea & Febiger, 1910.

This is the last volume of this work. It has taken about three years to complete the publication, and in view of the magnitude of the undertaking, it hardly seems possible that the seven splendid volumes could have been issued in a shorter time. The authors of the present volume are: L. F. Barker ("Introduction to Diseases of the Nervous System"); E. Bramwell ("Sclerosis of the Brain and Diseases of the Meninges"); Charles W. Burr ("Neurasthenia; the Traumatic Neuroses and Psychoses"); E. F. Buzzard ("Diffuse and Focal Diseases of the Spinal Cord"); Joseph Collins ("Topical Diagnosis of Disease of the Brain, Aphasia"); Harvey Cushing ("Tumors of the Brain and Meninges: Hydrocephalus"); Gordon M. Holmes ("Diseases of the Peripheral Nerves"); Smith Ely Jelliffe ("Migraine, Neuralgia, Professional Spasms, Occupation Neuroses, Tetany"); D. J. McCarthy ("Paralysis Agitans, Chorea, Choreiform Affections, Infantile Convulsions"); Colin K. Russell ("Combined Diseases of the Spinal Cord"); B. Sachs ("Amaurotic Family Idiocy"); E. C. Southard ("Acute Encephalitis and Brain Abscess"); W. G. Spiller ("Diseases of Motor Tracts"); W. P. Spratling ("Epilepsy"); E. W. Taylor ("Diseases of the Cerebral Nerves"); H. M. Thomas ("Diseases of the Cerebral Blood-Vessels"). It would be out of the question to review critically the monographic articles of all these contributors; it must suffice to point out again, as has been done in the case of the preceding volumes, that each contributor is qualified by special study to write on the subject or subjects assigned to him. That the contributors in general are leading men is apparent to any one at all familiar with the present state of the general literature on diseases of the nervous system so far as this country, Canada and Great Britain are concerned. We note that the consideration of mental diseases has been omitted. There are 37 plates, many of them of great value, as well as a number—not very large—of figures in the text. The present volume in every way measures fully up to the high standards of the previous volumes. In addition to the volume index there is an index to the whole work; this general index covers more than 50 pages and seems to be a comprehensive one. There is no authors' index.

Viewed as a whole, "Modern Medicine" is a production of great merit and usefulness. The various parts are well balanced; the editors have been uniformly fortunate in the choice of contributors; the result is a reliable and comprehensive picture of the knowledge of general medicine of our times. The editors and publishers have rendered the English-speaking medical world a large service.

DIE FORENSISCHE BLUTUNTERSUCHUNG. Ein Leitfaden für Studierende, beamtete und sachverständige Aerzte und für Kriminalisten. Von Dr. Otto Leers, Assistent der königlichen Unterrichtanstalt für Staatsarzneikunde an der Universität Berlin. Paper. Price, 6 marks. Pp. 212, with illustrations. Berlin: Verlag von Julius Springer, 1910.

To compare the manner of conducting examinations in medicolegal cases by the officials of any fair-sized German city with the procedures employed under the prevailing system of coroners and coroners' physicians in this country, would be ridiculous. Only when political or financial prominence demands special investigation do we see anything resembling a scientific handling by experts, who are usually called in after police, coroners and undertakers have spoiled everything possible. Therefore we fear that Leers' concise monographs on medicolegal blood examinations will not have so large a clientele in America as in countries that have fewer cases to investigate and more officials competent to investigate them.

It is an excellent treatise on the subject, giving a full and clear statement of methods and their proper valuation, in surprisingly small space. All standard means of studying blood and blood-stains for legal purposes are described, including not only the chemical, physical and microscopic procedures, but also the technic of the biologic methods by means of the precipitin, complement-fixation and anaphylaxis reactions. About one-half the book is given to these biologic methods, and a good bibliography adds much to its usefulness. The author has evidently planned to supply the needs of students and physicians who are taking a course of instruction in medicolegal methods, and has succeeded admirably in this; at the same time the book will be useful to those wishing to learn the value assigned to the newer methods by an expert; it will also be a starting-point for special consideration of the application of existing methods in any case calling for detection or identification of blood or tissue proteins.

SURGERY, ITS PRINCIPLES AND PRACTICE. By Various Authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, and John Chalmers DaCosta, M.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume V. Cloth. Pp. 1274, with illustrations. Price, $7 net. Philadelphia: W. B. Saunders Co., 1909.

In this, the fifth and last volume of this work, is found the most complete and comprehensive exposition of the subject of surgery of the vascular system (by Matas) that has appeared in any language. It is practically a monograph on the subject, comprising as it does the first 350 pages of the volume.

Surgery of the pericardium and heart, arteriorrhaphy, arteriovenous anastomosis, aneurismorrhaphy, together with all the recent experimental work done along these lines, are very thoroughly covered. The chapter is a model of completeness and one of the most valuable of the entire system. Following is a chapter on the "Surgery of the Female Genito-urinary Organs" which is a more complete exposition of the subject than is usually found in works of this kind. Among the newer subjects which are found discussed in this volume may be mentioned "Surgery of Accidents," "Surgery of the Parathyroid Bodies," "Intracranial Surgery of the Auditory Nerve," "Local and Subarachnoid Anesthesia," "Surgery of the Infectious Diseases" and "The Legal Relations of the Surgeon."

The authors, editors and publishers are to be congratulated on the excellence of their work and the whole profession for having been favored with such a master production.

EDUCATION IN SEXUAL PHYSIOLOGY AND HYGIENE. A Physician's Message. By Philip Zenner, Professor of Neurology in the Medical Department of the University of Cincinnati. Cloth. Price, $1 net. Pp. 126. Cincinnati: The Robert Clarke Co., 1910.

This book, intended more particularly for the public, is significant both as a message and a sign. As a message it brings to the people the mature thought of one of the ablest members of the medical profession on a subject of fundamental importance to society. It gives an account of an actual experiment, a demonstration of natural and beneficent sex culture in a public school. It teaches, furthermore, what ought to be taught in families as well as in schools, namely that sexual disease in the individual is the unit of social disease in the race. From this starting point the book treats of means that the medical profession has already recognized and that the public is beginning to recognize as the only logical method of solving the great problem that lies at the foundation of social welfare. As a sign of the times the book is especially significant. It reveals in its pages the fact that our schools for the masses are already taking up this question. It shows, furthermore, that the medical profession is giving careful study to these great sociologic problems and is issuing popular books of scientific value on questions that have too generally been left to ignorant and irresponsible writers. And, finally, it is a sign that the agitation conducted by the social purity associations and the eugenic organizations of the country is bearing worthy fruit. The style is lucid, while the subjects are plainly but delicately treated. It is a work that physicians can recommend when consulted, as they frequently are, about teaching the young on sex questions. It ought to be in the hands of every school teacher and parent.

LEHMANN'S MEDIZINISCHE ATLANTEN. Band vii. Atlas und Grundriss der Röntgendiagnostik in der inneren Medizin. Herausgegeben von Dr. med. Franz M. Groedel, Bad Nauheim. Cloth. Pp. 338, with 297 illustrations. Price, 24 marks. München: J. F. Lehmann's Verlag, 1909.

This work is not intended as a complete exposition of the subject for the use of the expert in Röntgen technic, nor does it take up the question of the use of the x-ray as a therapeutic agent, but is intended for the internist who uses the x-ray as an aid in the diagnosis of internal conditions. In the opening chapter is a brief description of the necessary apparatus, tubes, tables, screens, etc., with directions for their care and use. The various organs are then taken up and considered in detail, first the normal relations and then the pathologic conditions. Considerable attention is given to diseases of the heart and of the stomach and the value of orthodiagraphy in the diagnosis of the former and of the use of bismuth in the latter are well brought out. The changes which occur in the skeleton in connection with general diseases such as cretinism, myxedema, rachitis, Barlow's disease, osteomalacia, osteitis deformans, toxigenic osteoperiostitis, syphilis, tuberculosis, the arthritides, acromegaly, etc., are also presented. The work is extensively illustrated with 114 cuts in the text and an atlas of 173 autotypes and 122 photographs. A bibliography of thirty odd pages completes the work.

STUDIEN UEBER DIE BEI PERITONÄALEN INFEKTIONEN APPENDIKULÄREN URSPRUNGS VORKOMMENDEN SAUERSTOFFTOLERANTEN SOWIE OBLIGAT ANAËROBEN BAKTERIENFORMEN mit besonderer [illegible] ihrer Bedeutung für die Pathogenese derartiger [illegible] Runebc [illegible] n der Chir- [illegible] zu [illegible] Pp. 303, with illustrations. Berlin: Verlag von S. Karger.

This is a careful study of the subject of peritonitis of appendiceal origin. The author shows that the peritonitis in these cases is seldom due to a single form of organism and that the mere fact that but one variety of organism grew on the culture medium is no indication that the peritonitis was due to a simple infection. In most of the cases he finds a multiple infection and shows that the reason why they have usually not been found is that they are anaerobic in their nature and thus do not grow under the ordinary cultural methods. Even in those cases seen early with a slightly turbid serous exudate which ordinarily have shown no bacterial growth, and which therefore have been termed toxic or chemical peritonitis, he finds anaerobic bacteria of various kinds if suitable cultural methods are employed. Naturally the organisms found are those present in the intestine but they do not all live nor are they found in the same relative numerical proportion in the peritoneal exudate as in the intestine. The work contains much valuable information.

WHAT YOU OUGHT TO KNOW ABOUT YOUR BABY. By Leonard K. Hirshberg, M.D. A Text-Book f[illegible] on the Care and Feeding of Babies, with Questions and [illegible] Prepared by the Editor. Cloth. Price, 25 cents. Pp. [illegible] New York: The Butterick Publishing Co., 1910.

The *raison d'être* of this book, as sufficiently expressed in the preface, is that "more and more the doctor is interpreting it as his mission to teach people how to keep well. And the place to begin is with the babies." In a graphic and forceful way Dr. Hirshberg explodes old theories, superstitions and customs in regard to the rearing of babies, and points out the sensible, the modern way of carrying out this responsible duty and the inculcation of correct habits up to the period of adolescence. The causes of the common but dangerous diseases of childhood and the way to avoid them are explained in a practical way, and the responsibility of parents, through misguided affection and coddling, lack of knowledge or carelessness, for their occurrence is emphasized. The questions and answers at the end of each chapter bring to the consciousness of the reader in a pointed, concrete way the things to be avoided and the things to be observed. It is a practical book and will help in the education of the public in health matters.

THE CONQUEST OF DISEASE THROUGH ANIMAL EXPERIMENTATION. By James P. Warbasse, M.D., Surgeon to the German Hospital, Brooklyn. Cloth. Price, $1 net. Pp. 175. New York: D. Appleton & Co., 1910.

This little book is a timely publication and is commended to those who wish a logical, conservative and rational presentation of the case for animal experimentation. The book is based on addresses given before the New York Academy of Medicine, the Medical Society of the County of Kings, and the Brooklyn Institute of Arts and Sciences; it contains papers on "The Study of Living Animals," "What is Meant by Animal Experimentation," "The Technic of Animal Experiments," "The Meaning of Pain" and "The Relation of Animal Experimentation to Physiology, Surgery, the Practice of Medicine, Hygiene and Diseases of the Lower Animals." The book is recommended to county societies for distribution to the public, and for public libraries. It is especially suitable for school libraries. Dr. Warbasse deserves the thanks of medical research workers for the preparation of this volume.

HANDBUCH DER SERUMTHERAPIE UND EXPERIMENTELLEN THERAPIE. Ein Handbuch fur Klinik und Praxis. Herausgegeben von O. Wolff-Eisner, Berlin. Paper. Price, 12 marks. Pp. 408, with illustrations. Munich: J. F. Lehmanns Verlag, 1910.

This book consists of short and concise articles by a number of the more prominent active workers in the field of immunology and experimental therapy. The object is to provide the clinician with an authoritative source for ready reference in regard to serotherapy, vaccine therapy, organotherapy, etc., in their immediate practical bearings. The various chapters are written by men who have made the subjects discussed the object of personal study and investigation. The theoretical discussion is limited to the explanation of the underlying principles of the various methods. There is no question but that the practitioner will find this a useful book; it will help him to a better understanding and utilization of the results of progress in biologic science so far as they concern therapeutics.

ATLAS DER ANATOMIE DES MEDIASTINUM IM [illegible] Von Dr. Friedrich Albin Hoffman, o. ö. Professo[illegible] *medizinischen Poliklinik an der Universität Lei*[illegible] five radiographic plates. Price, 12 marks. Leipsic: Dr. Werner Klinkhardt, 1909.

This atlas consists of 25 plates, nearly life size, of Röntgenographs of the chest taken at definite angles through the body so as to present to view, as it were, the contents of the thorax from every possible direction.

The author correctly believes that the normal anatomy should be studied from the viewpoint of the x-ray plate before the attempt is made to study the pathologic picture and the object of these plates is to furnish some reliable data covering this particular portion of the body. The plates are very good, although they have lost somewhat in clearness of detail by repeated printing, a loss which is partially compensated for by the descriptive diagrams and explanatory text accompanying each plate.

HYGIENE OF PREGNANCY. By E. H. Harris, M.D., Higginsville, Mo. Paper. Price, 10 cents. Pp. 23.

This little pamphlet, intended for prospective mothers, after giving practical advice and instruction in regard to the diet, the value of fresh air, care of the skin, bowels, the breasts, the clothing to be worn and the correct attitude of mind to be cultivated during pregnancy, then takes up the subject of the approaching labor and the preparation for it and for the newly-born baby, its outfit and its hygienic care, the bath, feeding, sleep, dressing, necessity of open air, observation of the weight, the desirability of a quiet environment for the young child, weaning, etc., and closes with some sensible hints in regard to the rearing of the baby during its first year.

Pulmonary Tuberculosis and Its Complications. With Special Reference to Diagnosis and Treatment for General Practitioners and Students. By Sherman G. Bonney, M.D., Professor of Medicine, Denver and Gross College of Medicine, Medical Department of the University of Denver. Second Edition. Cloth. Price, $7 net. Pp. 955, with 243 illustrations. Philadelphia: W. B. Saunders Co., 1910.

In our review of the first edition of Bonney's work, we expressed the opinion that it was one of the best works on the subject of tuberculosis. The second edition contains a careful conservative review of newer developments and five new chapters are added. It is the work of an experienced clinician, which makes it particularly valuable to the practitioner, and being the work of one author, it possesses a unity which is often lacking in systems.

Consumption: Its Prevention and Home Treatment. A Guide for the Use of Patients. By H. Hyslop Thomson, M.D., Medical Superintendent Liverpool Sanatorium. Cloth. Price, $1. Pp. 75, with illustrations. New York: Oxford University Press, 1910.

This little book is written to be a guide for the use of patients. The author is medical superintendent of the Liverpool Sanatorium and a series of lectures delivered to patients in this institution form the basis of this volume. It contains a clear, simple statement of what tuberculosis is, how it is transmitted, and how patients must live to get well. Its simplicity, directness and good sense ought to make it a useful guide for curable consumptives. It is not intended to take the place of the physician but to supplement his directions.

Society Proceedings

OHIO STATE MEDICAL ASSOCIATION

Sixty-fifth Annual Meeting, held at Toledo, May 11-13, 1910

(Continued from page 1897, Vol. LIV)

President's Address: The Relation of the Medical Profession to the Public

Dr. W. H. Snyder, Toledo: It is manifestly impossible for so complex and necessary a science as medicine to live without a certain amount of easy articulation with the public. If the profession had not lived so much within itself, but, rather, had spread its ideals and discoveries before the public, antivivisection, Christian science, osteopathy, optometry and mental healing could not have gained ground, except with those who are mentally incompetent. Well-known weekly and monthly magazines have during the past two years probably done more to educate people along correct lines of medical thought than any other single agency. They reach a larger number of people, who are largely visualists, and must see in cold print what is intended for them to know, and, too, are regarded as stating the case more impartially than physicians would. I prophesy that the time will come when the medical profession will be compelled to print a magazine for lay circulation along these very lines, and I suggest that the association seriously consider the establishment of a bureau at Columbus, which would constantly be influencing the public thought through the newspapers, magazines and public addresses.

One of the lamentable things in Ohio is the condition of the state institutions, especially those for the insane; the most that can be said for them is that they are houses of detention and not hospitals. The medical profession of the state should take it on itself to submit a list of medical men available as superintendents for this work, and recommend to the legislature that some action be taken which will lead to an adoption of executive and medical supervision. Too much attention is paid to the per capita cost per year, rather than to the results from a medical standpoint.

The association should adopt the plan of the parent organization of having a president-elect, and an earnest inquiry should be made into the virtues of the plan for medicolegal defense, such as had been adopted by the Toledo Academy of Medicine.

The Principles of Medical Defense as Applied to the Ohio State Medical Association

Dr. Willard J. Stone, Toledo: Since most so-called malpractice suits against physicians arise from misunderstanding or for purposes of extortion, a stiff defense by a firm of attorneys experienced in such work is usually enough to lessen the ardor of any adventurer or unscrupulous lawyer. Physicians who are members of such an organization are more careful in opinions expressed regarding the work of their associates. The defense deals only with civil action brought against members of the society; no attempt is made to excuse negligence or culpability. In such case physicians are advised to settle the matter in hand as seems best to the executive committee and the attorneys. In all states which have so far tried the plan, it has proved successful from a financial point of view. It furnishes members a cheap insurance, but not for profit, and such a feature greatly increases membership in the state organization. The number of malpractice suits has been decreased at least 25 per cent. in states which have adopted the medical defense feature.

LEGISLATIVE NOTES

Condemnation of Benzoate, Etc.

A motion was carried deprecating the use of benzoate of soda and similar chemical preservatives in the preparation of foodstuffs intended for human consumption, and urging on Congress such modification of the Food and Drugs Act as will make their use impossible.

A telegram was sent to the governor of the state urging him to use his power of veto against the optometry bill.

Eugenics and the Sterilization of Criminals

The committee on vasectomy reported that a bill providing for the sterilization of habitual criminals had been prepared, but was buried in committee. The laity is little less informed on the need of such legislation than is the medical profession itself. The idea of human sterilization is repugnant to the average man, and unless he studies the subject carefully and also learns what has been done, he will turn from any such proposal in disdain. He has little patience even with the reasonable proposal to emasculate the habitual sexual criminal. It is the opinion of this committee that the subject of parenthood and race culture, the so-called science of eugenics, should receive vastly more attention than is accorded to it in the reading and study of the average physician, to say nothing of the average layman. It can be laid down as an axiom that there can be no interference with child life after the union of the cells concerned in reproduction; all that then can be done is to provide for the child's environment and education. The only means we have to redress the imbalance which threatens to engulf us in the relative rates of reproduction in the inferior and superior classes is to prevent in some way the multiplication of the former and to encourage it in the latter. Nature preserves the balance by killing the unfit in all living species except man. Savage races are subject to the same law. We who are moral and humane and have not in our own hands the issues of life and death, must preserve and elevate the race by preventing the unfit from ever coming into existence at all. We must replace Nature's relative death rate by an intelligent relative birth rate. This means vast economy in life, in money, in time, in suffering. It is merciful and supremely moral. It is natural at bottom, but it is Nature raised to its highest power in the moral intelligence of man. In view of these truths the committee recommended that the state committee on public policy and legislation be charged with the duty of continuing the agitation in published articles in our journals and through other channels for the education of the profession and the people, and that a bill embodying the principle of sterilization of habitual criminals be introduced for enactment at the next session of the Ohio legislature.

National Department of Health

A resolution was passed endorsing the bill introduced in the Senate by Senator Owen to establish a national department of public health.

A Section on Sanitary Science and Hygiene was organized.

Trend of Laboratory Diagnosis in the Past Ten Years

Dr. Francis Carter Wood, New York: The time has come when it is absolutely necessary for the practitioner of medicine and the laboratory specialist to unite in their work, if the patient is to receive the best treatment, and medicine is to be advanced along practical lines. In the past, many laboratory investigations have been of little value, because they lack direct application to live conditions and are much too theoretical. The practitioner who had no laboratory training was hampered in the diagnosis and treatment of his cases. The tendency is, even now, noticeable, in medicine, to place the treatment of a few infectious diseases in the hands of men whose training has chiefly been of a laboratory nature, examples of which may be cited, the application of tuberculin and the vaccine therapy. Laboratory methods consist of those which the practitioner himself should regularly employ, and those which, on account of their very complication, must be carried out in a fully equipped laboratory and only by specially trained men. However, the physician must have full knowledge of the relative value of the laboratory and clinical symptoms. In some diseases the laboratory findings are of the utmost importance; in others of relatively small value. The subcutaneous injections of tuberculin, the Von Pirquet, Moro and Detre tests, require a somewhat extensive experience to use and interpret them intelligently. This is also true of the therapeutic use of tuberculin. The vaccine treatment of Wright should be confined to men who have had special laboratory training and experience. Many of the unsuccessful cases recorded and some of the unfortunate results that have been obtained by the use of the vaccine therapy are undoubtedly due to the injudicious employment of this method in unsuitable cases.

Another important method in diagnosis and treatment, which must be carried out by laboratory men, is the Wassermann reaction. This test I consider as possibly the most important laboratory contribution to diagnosis of the past ten years. It is of great importance in the inspection of wet nurses, in quieting those who suspect, without reason, that they may have contracted syphilis, and life insurance companies might with advantage use the test in doubtful cases. Certainly those who give a positive reaction could not be considered ordinary risks.

But laboratory and instrumental methods by no means replace the clinical history and careful examination of the patient. In probably 90 per cent. of persons treated in general practice the use of laboratory methods adds but little to diagnosis or treatment, but in the remaining 10 per cent. such tests might be of vital importance. Especially is this true of persons to be treated by the newer sera or bacterial products, where an absolutely accurate diagnosis is necessary. The main fact to be kept in mind is that the time has come when there can be no separation of the clinical and laboratory aspects of medicine, and patients have a right to demand every means which will give them the best hope of cure.

Trivialities and Progress

Dr. John F. Binnie, Kansas City, Mo.: A consideration of some apparently self-evident principles, observations and investigations and of the benefits accruing from their recognition is not only interesting but will encourage one to pay more attention to common sense in an age when we are liable to be swamped by the flood of wierd technical terms and weirder processes constantly flowing from the laboratories. While exact laboratory and experimental work is an absolute essential in progress, unfortunately too common though unavoidable divorce of the laboratory from the clinical study is liable to render the laboratory observer tyrannical or bigoted.

From the earliest days the milkmaid knew that her milk would sour unless her pans were thoroughly cleansed and scalded; the housewife knew the preserves were safe if, after being thoroughly boiled, they were kept free from air pollution; the plainsman knew that his jerked meat if well dried was an assured asset. And yet surgeons were blind to the significance of these observations until the researches of Pasteur were published in France and applied to practical surgery by Lister in Glasgow. In early operation for rupture opposing edges were brought together and sutured; now all successful operations for inguinal hernia aim at the restoration of the canal by securing apposition of surfaces instead of edges. The whole principle of the closure of hernial openings is based on the fact that it is much easier to gum two sheets of paper together by their faces than by their edges. Such principles are so absurdly simple that it seems almost an impertinence to mention them, and yet surgeons were blind to them. The marvelous advance of bacteriology has been rendered possible by the simple discovery of the separation of the bacteria in a solid culture medium.

Some Germans recently discovered that a ganglion is the result of a colloidal degeneration of connective tissue, and that bursæ seem to have a similar origin. Comparison of the histology of ganglia, bursæ and joints show the three structures very similar if not practically identical. Nélaton and others were struck by the fact that non-union of fractured bones was commonly due to interposition of muscle, etc., between the fragments, hence in cases of ankylosis of the lower jaw they excised the temporo-maxillary joint and filled the osseous defect with a flap of tissue from the temporal muscle. John B. Murphy put these things together with the spark of genius. Why would not similar degeneration take place in flaps of tissue made to envelop opposed sawn surfaces of bone? The result is a new chapter added to surgery, viz.: arthroplasty. Sprains are no longer treated by complete rest, but by means of adhesive strips strain is taken off the injured structures and the patient thus protected and urged to use the injured joint, with the result that the active movement of the parts encourages absorption of the exudates and encourages nutrition while discouraging the formation of crippling adhesions and callosities. In vascular surgery the observation of the mesentery of the frog showed that where the blood stream slows the corpuscles congregate and the circulation stops, because the mesentery so quickly dries, but if kept moist in salt solution it can be observed uninterrupted; the fact that an eye kept open and dry will develop conjunctivitis; that where a loop of intestine is pulled out it quickly loses its normal luster, becomes dry and later covered with lymph, so that it readily adheres to almost anything with which it comes in contact—all these things our predecessors were blind to. Physicians will protect exposed abdominal contents with dry gauze, than which there could be no material better adapted to dry the delicate peritoneum and produce the phenomena of inflammation. If the gauze be wrung out of warm salt solution, or, better, out of warm liquid petrolatum, then it becomes a real protection not only against infection but against evaporation. That the Criles and the Carrels have succeeded in arteriorrhaphy where their predecessors failed lies in the fact that the successful experimenters prevented evaporation and drying of the intima, recognizing the fact that blood will coagulate on the intima of a vessel when that intima is inflamed, and that any delicate serous or mucous membrane exposed to the air becomes dry by evaporation and so inflamed. The rest of us had looked at the blood circulating in the frog's mesentery and had known of the necessity of keeping the mesentery moist lest the circulation stop; but we were not seers—we could not see the obvious and so failed in progress.

Ulceration of the Larynx Following Intubation in Membranous Croup

Dr. J. M. Phillips, Columbus: Out of four hundred and twenty cases I have observed this sequel twelve times. The exciting cause is undoubtedly the pressure which the tube exerts on tissues already lowered in vitality as a result of diphtheritic inflammation, and while the metal and hard rubber tubes seem equally apt to produce ulcers, undoubtedly a tube which is too large or which is awkwardly or forcibly introduced is more likely to produce ulceration than one which fits exactly and is introduced by a skilled hand. The early symptoms are not easy to recognize. In one class of cases when the tube is removed the child is unable to obtain a single inspiration, or else shows rapidly increasing dyspnea, making a reintubation necessary in a few hours, in which cases the ulcers have probably already formed and the larynx is swollen and softened. In a second class the patient does nicely for several days, then gradually develops the symptoms of laryngeal obstruction, and operative interference becomes imperative. At first I believed the dyspnea was due to a reflex spasm of the vocal cords, but, having an opportunity to examine with the laryngoscope, I saw the cords open, but the larynx was partially occluded by a collapse of its anterior wall. The softening of the cricoid and thyroid cartilages, which have to bear the greater part of atmospheric pressure during inspiration, permits them to collapse during inspiration as a result of this external pressure. In all cases after ulceration is well advanced the most pronounced symptom, and one almost pathognomonic of ulceration, is the repeated coughing up of the tube, the expulsion of which is followed immediately by intense dyspnea or even asphyxia. In hospital practice most of these patients die from bronchopneumonia, due to aspiration into the deeper bronchi of pus from the ulcerating surfaces. In private practice most of the patients cough up the tube and die from asphyxia before the physician can reach them. The treatment is unsatisfactory. Six patients with suspected ulceration recovered when treated by sedatives and by removing the tube quickly or allowing it to be coughed up. Under expectant treatment there were six deaths from bronchopneumonia and one from asphyxia, and one recovery with partial stenosis of the larynx. After tracheotomies there was one death from asphyxia, two recoveries and one child which died of measles after wearing the cannula five months.

DISCUSSION

Dr. Thomas Hubbard, Toledo: In these days of antitoxin intubation is practically a lost art. The tendency now is to wait longer than one would in the pre-antitoxin days; consequently it is the most desperate class of cases that have intubation. These cases of deep ulceration and complications following intubation have been due to mixed infection rather than pure diphtheritic infection. Shurley of Detroit, in 400 cases, was able to study 30 for five years after intubation, and in only a few was there even the symptom of hoarseness. In other words, the slight erosions from the calcareous deposits on the tube rarely result in permanent injury. The size of the tube is important, not as regards the child's age, but the actual condition encountered, a smaller tube sometimes being required on account of the extreme swelling. Also the matter of introduction and extraction is most important. The old tubes, after the original methods of O'Dwyer, were the most perfect and satisfactory.

Pleurisy, Both as a Complication and as a Sequel of Lobar Pneumonia; Diagnosis and Treatment

Dr. James M. Anders, Philadelphia: While it is universally conceded that pleurisy is the commonest complication of the pneumonic process, it should be regarded as a complication only when the dry plastic variety is of marked severity, or pleurisy is accompanied by sufficient effusion to be easily demonstrable by means of the physical signs. There are instances of pleurisy of the plastic variety that clearly precede the development of a pneumococcal infection of the lung, and this class of cases has not received the measure of consideration that it would seem to merit. It is often difficult to distinguish such cases from those presenting identical signs, without the tendency to merge into pneumonic features; but an examination of the blood usually reveals a leukocytosis. The systemic prostration is greater and the temperature range higher than in non-pneumococcic pleurisies. It is well in suspects to attempt to demonstrate the pneumococcus in blood cultures. With regard to pleural effusions in children, as related to lobar pneumonia, two points deserve special notice: first, as compared with adults, purulent effusions from all causes are more frequent relatively than serous; and second, during early childhood not less than 75 per cent. of empyemata are due to the pneumococcus, according to the figures of Netter, Blaker and others.

The question of its bacteriologic cause is important. The pneumococcus is often found in a state of purity, but it may also occur mixed with the streptococcus, the staphylococcus, the tubercle bacillus, and rarely with other organisms. These facts have a practical bearing on the diagnosis, prognosis and treatment. Exploration with a needle in highly suspicious cases may be demanded, but shock, even of the slightest degree of intensity, is badly borne by pneumonia patients, and a small needle is to be preferred. A gradual fall of temperature in pneumonia rather than crisis, is often due to associated pleuritis.

The general features of pneumococcus empyema are usually more or less indefinite. If a complication, the temperature usually falls by lysis and an irregular fever curve may exist for weeks in unrecognized cases. Empyema as a sequel is usually easy to detect; irregular fever returns, the prostration increases, and there is rise of the leucocyte count. Spontaneous rupture should not be awaited. Exploratory operations will not only clear the diagnosis, but also accomplish the cure in a majority of cases. It is of the utmost importance to avoid the use of drugs that act as depressants in all pneumonia cases. Counter irritation in milder cases, and the complete putting to rest of the inflamed structures are advisable. The treatment of empyema is surgical. Somewhat massive doses of the tincture of the chlorid of iron is apparently efficacious.

(To be continued)

AMERICAN NEUROLOGICAL ASSOCIATION

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(Continued from page 1895, Vol. LIV)

Case of Resection of Dorsal Spinal Nerve Roots for Gastric Crises of Tabes

Drs. J. J. Thomas and E. H. Nichols, Boston: Aside from the case reported by Förster and Küttner, one other case has been found in the literature, reported by Bruns and Sauerbach, both operations having been done in the summer of 1909 and both followed by complete relief. Our patient was a man, 32 years old, a widower, with one healthy child, a girl of 13. The birth of this child was followed by three or four miscarriages of unknown cause. Syphilis was denied. The gastric crises began about eight years before, and in October, 1905, the abdomen was opened, but nothing abnormal was found, except a few adhesions of the omentum to the gall-bladder, which did not pull on the stomach. These adhesions were freed. The attacks continued and the man entered the hospital, Aug. 3, 1908; at that time his attacks came at intervals of one week to one month, and lasted from one to ten days with severe pain and vomiting, accompanied usually by diarrhea. There had been no loss of control of the bladder, but some diminution of sexual desire. No lancinating pains, no diplopia and no ataxia in walking or standing, but very slight ataxia in movements of legs with eyes closed. Hypertonicity in legs well marked. Pupils moderate size, regular and equal, reacting with accommodation, but not to light. Patellar and Achilles reflexes equal and present. At this time he had become habituated to the use of morphin and was taking about a grain a day. The attacks continued, gradually becoming more frequent, seldom a week passing without one. In August, 1909, the Noguchi serum test for syphilis was positive.

At the time of operation the weight, formerly 145 lbs., had fallen to 100 lbs., sensation for touch and pain was diminished on the chest from the third to fifth rib and the abdominal reflexes were lively. The left Achilles jerk had disappeared though the right one and the patellar reflexes were present. March 3, 1900, the 7th, 8th and 10th thoracic dorsal roots were cut. After the operation for a time there was severe twitching of the abdominal muscles at times and pain about the chest, which gradually diminished. He vomited once while still in the hospital after being given mercury by mouth and once after his discharge after eating beans, but neither time was there any pain, nor was the vomiting persistent, being over within an hour. There was the same condition on examination, but an absolute loss of the sense of touch and pain from the level of the sixth rib to three fingers breadth above the umbilicus and from this area no abdominal reflexes could be obtained, but it was present and increased on irritating the skin of the lower abdomen. The man regarded himself as cured of his crises, but had not gained in weight and was attempting to diminish his morphin and had reduced it to ½ of a grain a day.

DISCUSSION

Dr. J. K. Mitchell, Philadelphia: How does Dr. Thomas justify the diagnosis of locomotor ataxia with knee jerks still present? In the last year I have seen one case of tabes in which gastroenterostomy was done and two cases in which operation was done for gastric crises and two in which gallstones were hunted for. Presumably in none of these cases did the surgeons take the pains to examine either the knee jerks or the eye reflexes.

Dr. P. C. Knapp, Boston: I must confess that theoretically I am somewhat skeptical about the results of operating on the posterior roots for the gastric crises of tabes, because of the physiologic fact that the nerve supply of the stomach is dependent very much more on the vagus than on the sympathetic. Dr. Thomas' success, however, led me to have another patient, whose case is very similar to his, operated on by Dr. Blake a day or two ago. In answer to the objection Dr. Mitchell raised to the diagnosis in Dr. Thomas' patient, I would say that in the last few years, as well as previously, I have seen many cases with pretty clear tabetic symptoms but with retained ankle jerk.

Dr. H. Cushing, Baltimore: I would like to make an arrangement with Dr. Mitchell whereby I could turn over for his collection a list of cases of the kind he mentions of which I have cognizance in return for a list of cases of brain tumor long treated for gastric headaches. Just a day or two ago a patient, a woman who had very persistent crises with great pain, was transferred from the medical to the surgical side for operation, but when I saw her I decided to delay operation, as she was absolutely free from pain. I do not think any surgical cases of disease reported after they have been done a month really convey a fair general impression as to what the author's results are.

Dr. J. Collins, New York: I am very much in favor of the operation in cases that are intractable. In reference to knee jerks being present in tabes. I would say that in 10 out of 20 cases of tabes the knee and ankle jerks are present.

Dr. F. X. Dercum, Philadelphia: A man seen by me many years ago, long before we had resorted to the examination of the cerebrospinal fluid and the Wassermann test, had frightful suffering, apparently crises of tabes, though the knee jerks were retained. There was no marked disturbance of sensation anywhere, but there were markedly contracted pupils. The patient was a user of morphin, but on being persuaded to do without hypodermics 48 hours he had a good pupil, which responded to light. In other respects the symptoms varied somewhat. There were symptoms of a gastric nature. Dr. Keen excised a small gastric ulcer and the man recovered. I believe that this operation promises something in an otherwise very serious affection.

Dr. J. J. Thomas: I agree with Dr. Collins that we frequently make the diagnosis of tabes in the presence of knee jerks and ankle jerks. The reflex of the pupils was absent to light, although retained at first, and the man had marked hypertonicity, which I thought was fully as important to tabes as ataxia, and I felt justified in calling the case one of tabes. I made the Noguchi test and it was positive for syphilis. The count of the cerebrospinal fluid was not made. At operation there was found a marked degeneration of the pia.

Oculomotor Palsies Due to Vascular Constriction in Cases of Brain Tumor

Dr. Harvey Cushing, Baltimore: Oculomotor and particularly abducens palsies, more or less fluctuating in degree, often occur in cases of tumor and are included among false localizing signs. Various explanations have been offered for their occurrence. Contrary to the usual anatomic description, these nerves underlie the lateral branches of the basilar artery, which have a rubber band effect and so constrict the nerves as to block their transmission of impulses. The condition is most apt to accompany tumors of the posterior fossa.

A New Type of Pressure Myelitis

Dr. Graeme M. Hammond, New York: Author's observation is based on the study of seven cases. The pathologic conditions of this disease seem to consist of the development of an enormous amount of new bone tissue, which is spread over a number of vertebræ and adjacent rib ends, obliterating all articulations and giving the affected vertebræ and ribs the appearance of being one single piece of bone. The development of new bone also occurs within the vertebral canal and gives rise to compression of the cord, causing both sensory and motor symptoms, but eventually leading to the most intense rigidity of the entire voluntary muscular system below the level of the lesion. There was gradual development of the "bible back" or forward curvature of the vertebral column seen in spondylose rhizomelique, but in none of the cases was there any evidence of rheumatism.

DISCUSSION

Dr. B. Sachs, New York: I have seen a number of cases that have offered some difficulty in diagnosis, particularly in trying to make the differential diagnosis between such conditions as described and a simple myelitis. Within the last few months I have had two cases of absolute spinal rigidity. An *x*-ray picture was taken in one case and showed a condition very much like the one presented by Dr. Hammond. In this patient, a man of about 35, the rigidity of the spinal column was absolute from the third or fourth cervical vertebra to the very end of the spine. In fact, there was no movement possible of the body, except slight movement of the head forward and a slight lateral movement of both sides. There were extreme contractures and atrophies. The man as he now lies in bed has his knees so completely contracted that you can hardly put a hand between the posterior surface of the thigh and the posterior surface of the calf, the legs are locked together and there is absolutely no motion of any part of the leg, except of the toes. The atrophy is more extreme than I have ever seen it in any case of ordinary spinal origin. There is hardly a bit of tissue left; the skin seems as the bone. So far as the diagnosis is concerned I am not ready to suppose this represents an entirely new type of disease. I think these cases are closely related to the spondylose rhizomelique type. I hope that in all these cases of mysterious spinal disease an *x*-ray picture will be taken, for nothing is more serviceable in case of mysterious spinal disease in reaching a diagnosis when medical signs are wanting.

Dr. D. J. McCarthy, Philadelphia: My feeling is that we are dealing in these chronic cases of rigidity of the spine with not only a factor involving the bone and cartilages, but an involvment of the spinal dura on its external surface, and this should be examined very carefully microscopically. It is more rational to suppose that where you have an extensive process it would more likely be due to inflammatory changes in the dura, a condition localized to one group of joints. The bone changes are secondary and are not the primary disease.

Dr. W. G. Spiller, Philadelphia: I have not quite understood from Dr. Hammond the distinction between the type he has described and that which von Bechterew describes. Von Bechterew makes a distinction between his forms and those of Marie. There are in this connection two other kinds of disease. They are not likely to cause confusion in diagnosis, but they are interesting to mention. Eight or ten years ago Dr. Mills and I reported a case of a man who was paralyzed and had rigidity of the spinal column. We found that the dura was firmly adherent to the bodies of the vertebræ throughout the whole course of the spinal canal, and in removing the cord it had to be cut away inch by inch. I recently had an interesting case in a man who developed paralysis and exaggerated reflexes of his lower limbs. The disease gradually progressed upward, involving his left arm and then the other arm, and the course of the disease was only a few weeks. I found a growth on the outside of the dura which under the microscope shows probable endothelioma. This is the first case I have seen of real endothelioma developing primarily between the dura and the bodies of the vertebræ.

DR. G. M. HAMMOND: In regard to the case Dr. Sachs spoke of, I think there is no doubt that it is a case of spondylose rhizomelique; he has the muscle changes which go with such conditions. In none of my cases was there any ankylosis of the hip joints, or atrophy. The rigidity was a muscular spasticity just as we see in a myelitis of the crossed pyramidal tract with the attendant symptoms of clonus, Babinski reflex and exaggerated reflexes. This persisted until rigidity had become great. All these patients die. Not so with the cases of spondylose rhizomelique; many of the patients live on for years. I agree with Dr. McCarthy that the bone changes are secondary. In all the cases the first symptom elicited was the curvature and rigidity of the spine coming on three or four years before the first spinal symptom was apparent. In regard to the changes of the dura spoken of by Dr. Spiller, in the only case I have had a chance to examine the dura it showed no adhesion. So I doubt whether adhesions of the dura have anything to do with the symptomatology of this condition. It simply seemed to me that on account of the increase in the body tissue the spinal cord is gradually compressed and destroyed, and these patients die. I do not think it tallies at all with any of the cases described by von Bechterew. It may not be a new disease, but it is new to me and I have no doubt that when attention is called to it we will find a good many cases of similar type, but it is not that of spondylose rhizomelique.

Cyst (Possibly Traumatic) of Spinal Meninges Removed by Operation, with Recovery of Patient. Location of Centers for Testicular Sensibility

DR. CHARLES S. POTTS, Philadelphia: A farmer, aged 42, received a blow on the back eighteen years before coming under observation. No serious symptoms were caused at that time. Two years before admission to the hospital (12-8-09) he began to have attacks of severe shooting pains in the left hypochondrium. During the attacks the lumbar muscles of the left side were thrown into spasm. At this time a girdle pain extending through the umbilicus was also present. A few months before admission first noticed difficulty in walking. Examination showed a very ataxic gait. Muscular power of the legs good. K.J. plus, A.J. plus. Babinski on the right side. The cremaster reflex was present on the left side but absent on the right. Abdominal reflex absent. Station poor, heel-to-knee test poorly performed, unable to recognize the direction of passive movements of the toes. An area of possible hyperesthesia and hypalgesia extending about four inches below the right groin. Both testicles completely insensitive. Sphincters normal. The laminæ of the sixth, seventh, eighth, ninth and tenth thoracic vertebræ were removed. A soft growth, pronounced by the pathologist to be a *traumatic* cyst, was found extending subdurally from the lower angle of the wound (first lumbar segment) upward for about three inches. Complete disappearance of pain. Testicular sensibility returned and there was nearly complete disappearance of all the other symptoms.

Tumors and Cysts of the Spinal Cord and Its Envelopes

DR. CHARLES K. MILLS, Philadelphia: I will present the histories of three cases of intraspinal disease. The first was one of tumor of the lower cervical region; the second was a cyst of the thoracic region similar to those which have been described under the designation of circumscribed serous meningitis; the third was a sarcoma involving the cauda equina and lumbosacral roots, and to some extent the cord. The chief points of interest in the case of subdural cervical endothelioma were the exact localizing phenomena present—early pain at the upper pole of the growth as indicated by its distribution, the moderate but distinct atrophy and loss of power in the hands and fingers. Compression of the pyramidal tracts as shown by paresis and exaggerated reflexes in the lower extremity and impairment of the reflexes in the upper extremity on the side of the tumor. Anesthesia in the case was very slight and chiefly confined to tactile loss in the postaxial portion of the hand and forearm. After the operation contraction of the pupil and ptosis or pseudo-ptosis were present, these apparently being caused by injury or section of communicating branches to the sympathetic.

The case of thoracic "cyst" was distinctly in its appearance like those which have been described as instances of circumscribed serous meningitis. It was localized by hypalgesia, the upper limit of which was two or three inches above the umbilicus. Severe and persisting pain both in the back and in one of the lower extremities at first without and later with complete paralysis in both extremities, exaggerated reflexes, including the Babinski response, with bladder and rectal involvement, were the most marked manifestations. After evacuation of the cyst the pain was for a time relieved, the patient recovered the use of his limbs so that at first coarse movements and afterward the movements of the toes could be performed. He suffered, however, from serious cystitis and delirium, probably dependent on toxemia. He made what might be termed a partial recovery, but relapsed.

In the third case, that of sarcoma of the cauda equina and lumbosacral roots, the early manifestations were pain of an extremely severe character, which affected the back and the extremities first on one side and then on the other. In this case the anesthesia which developed indicated involvement of the posterior nerve roots, at first of the conus and later of roots higher up, as high as the second lumbar. They were distinctly root areas, not segmental or of the extravertebral neural type. The patient eventually was completely paralyzed, with marked atrophy, paralysis of the sphincters, and the whole train of phenomena showing destructive implication of the nerve roots originating from the lumbosacral spinal cord. The cord itself was also apparently involved by pressure or extensions of the lesion.

DISCUSSION

DR. W. G. SPILLER, Philadelphia: The case of circumscribed serous spinal meningitis reported by Dr. Martin, Dr. Musser and myself was the first of its kind reported. The patient is now in perfect health, except that she occasionally has a little pain in the back, possibly from catching of some fibers. There is no possibility of diagnosing a circumscribed serous meningitis from a tumor. As Oppenheim has pointed out, there will be variation with the fluctuation of the fluid in the dural canal.

DR. G. JACOBY, New York: I present two specimens. One was taken from a man who suffered with symptoms of gradually increasing pressure paralysis and paresis and disturbance of sensation for a period of ten or twelve years. He was able to walk to the hospital but had marked weakness of both lower extremities. There was sufficient sensory disturbance to enable us to make a diagnosis of probable intraspinal tumor at the sixth dorsal vertebra. At operation we found at this sixth dorsal segment an enchondroma growing from the body of the vertebra into the spinal canal compressing the cord so that the cord was attenuated to simply a filament. The second patient was operated on by Willy Meyer and a glioma removed from the cord substance. In this case the entire history of disease was only three months. The first symptoms were weakness of the lower extremities which progressed so that there was spasticity and paraplegia and all the symptoms of complete pressure paralysis of the cord. The tumor in this case was the size of a large cherrystone.

DR. G. L. WALTON, Boston: With regard to the level of anesthesia as determining the position of the spinal tumor, one very practical point is to be borne in mind, namely, that the accumulation of fluids, whether in the cord itself or in the membranes, is likely to produce symptoms which may be erroneously credited to the tumor itself. It is true that in the majority of cases the point selected for operation should err in the direction of being set too high rather than too low. But, if we always follow this plan, we may be misled, as in a case in which I recently had occasion to advise operation. In this case severe pain in the lower back and extending down the thighs was rapidly replaced by paraplegia with numbness extending nearly to the umbilicus. Finding it hard to credit the tumor itself with such rapid growth I was guided rather by the initial pain, and advised removing the tenth and eleventh dorsal laminæ. Operation at this point disclosed the upper limit of the tumor, above which the cord was apparently normal. If the cord had been exposed at the level indicated by the level of anesthesia, its normal appearance would have led to the erroneous conclusion that no tumor existed. I am inclined to credit accumulation of fluid with the rapid extension of symptoms.

DR. J. J. THOMAS, Boston: I agree with Dr. Spiller in reference to diagnosing circumscribed serous meningitis from tumor. In regard to the point of differential diagnosis between growths of the spinal cord, whether from the pia or dura, I confess that I have less confidence in our ability to differentiate them exactly. In the case that Dr. Walton referred to I was rather opposed to operation because of the intense character of the symptom, coming on suddenly, which seemed to him to point to total destruction. Within two or three days the man became completely paralyzed in both sensation and motion.

DR. H. T. PATRICK, Chicago: The upward movement of the umbilicus when the patient, lying with his arms folded across his chest, raises his head from the pillow, known as Beevor's sign, is of service in diagnosis in spinal cord tumors. The recti muscles are not paralyzed but the muscles below are paralyzed and the umbilicus makes an excursion of a half inch or even more.

DR. E. JONES, Toronto, Canada: I was Dr. Beevor's assistant for a few years and I would add two points to what has been said of Beevor's sign. In some cases you will get it obliquely, not only drawn upward, as one of the muscles is paralyzed below, but sometimes obliquely to the right or left which gives a clue to the side of the tumor. Further, in cases of congenital dystrophy with paralysis the umbilicus is drawn downward.

DR. M. A. BLISS, St. Louis: I have had quite a distinct case of circumscribed serous meningitis. A laminectomy was done, then a second laminectomy, when an endothelioma was found.

DR. C. K. MILLS, Philadelphia: I am not altogether satisfied with the term circumscribed serous meningitis or with the explanation which is involved in the use of this term. In the case which I reported I think it quite possible that there was more than was apparent. The probabilities are that there is a universal serous meningitis and possibly chronic meningitis with, perhaps, two or three pockets where cystic foci appear, as in the present case. The differentiation between intrapelvic and spinal tumors can usually be made. We simply have not been careful enough.

Fracture of the Bodies of the Fourth, Fifth and Sixth Cervical Vertebræ with Injury of the Spinal Cord

DRS. W. H. SWAN, Colorado Springs, C. A. POWERS, and H. T. PERSHING, Denver: A man, aged 70, fell from a horse, striking on his forehead. There was immediate motor and sensory paralysis below the neck with evacuation of bladder and bowel, without loss of consciousness. Extreme shock, followed for some months by improvement, without restoration or ability to stand, sit alone, or turn in bed. Daily catheterization was done with no ill effects. Eczema which was present rapidly disappeared on the anesthetic skin up to a sharp line of demarcation, then slowly cleared above. There was greater mental activity and happier mental state during about 18 months than before injury, probably due to relief from unpleasant sensations. Death took place 28½ months after injury from uremia. Operation was considered and rejected on account of patient's age and the improbability that a remediable lesion would be found. Fixation of head was deemed inadvisable. The dried preparation of the cervical spine of this patient shows no lesion of the arches or articular processes but a moderate crushing of three bodies which could not have been remedied by operation. Localization diagnosis was based on retention of power in deltoids and biceps with paralysis of both triceps muscles which indicated a lesion of the seventh cervical segment. Faradic tests indicated almost complete escape of anterior gray horns and anterior roots. Autopsy showed the bodies of the fourth, fifth and to a lesser extent the sixth cervical vertebræ to have been fractured by a crushing force but the fragments united in normal position. The arches and articular processes showed no injury. Preliminary histologic examination shows the usual ascending and descending degeneration.

DISCUSSION

DR. H. N. MOYER, Chicago: This case follows the general rule that the fifth cervical is the most frequent seat of these cervical fractures. So far as operation is concerned, this case rather favors operation. The value of operation in these cases is unquestioned. The distinguishing features for the neurologist is to understand if there is extrinsic pressure. The hematomyelia is not, of course, to be operated on. I do not wish to be understood as saying that this old man of 70 ought to have been operated on. I am speaking of the broad general principle of operation. I believe it to be a sound rule to fix the cervical vertebræ where you have a fracture if you don't operate. In all the cases I have seen I have recommended fixation.

DR. H. T. PERSHING: When it comes to a question of operation in a case of this kind you have to consider the individual patient and the advantage of accomplishing anything. In this case, of course, we could not have reached the seat of fracture in the bodies and done anything with them. The risk from the operation *per se* is very great and, of course, with this particular man would have been very much greater. There were many things aside from his age which made it necessary to be very cautious about operation. The question of fixation was discussed very carefully and very earnestly and it was decided in the negative, mainly on account of the absence of rigidity and pain; the disposition of the patient after being warned was to keep his head still on the pillow. Also because of his temperament it would have been very difficult to make him submit to fixation.

(To be continued)

NORTH DAKOTA MEDICAL ASSOCIATION

Twenty-third Annual Meeting, held at Grand Forks, May 10-11

Under the Presidency of DR. J. E. COUNTRYMAN

Officers Elected

The following officers were elected: President, H. H. Healy Grand Forks; secretary, Dr. H. J. Rowe (re-elected), Casselton

Benefits of Organization—President's Address

DR. J. E. COUNTRYMAN: So many members of the professio do not appreciate the many advantages of a meeting of thi kind, where for the time being we can lay aside the cares o the profession, where we can absorb knowledge, one from th other, get new ideas, rub elbows with the other fellow and g home with new incentives to do better work and accomplis greater things. When a physician thinks it unnecessary t belong to his district society or to take some interest in th affairs of his state organization, or, in short, thinks there i nothing further for him to learn, then he is unable to mak such use of his talents as should be expected and demanded c him by his patients. During the past year we were favore by a series of addresses from Dr. J. N. McCormack of Bowlin Green, Ky. His remarks were timely and will be productive c much good, and the thanks of this Association are due to hi and also to the American Medical Association, under whos auspices it was made possible to carry out this line of wor I particularly wish to call your attention to the subject medical legislation. We have reached a period of our grow when we must reach out for that, which under all rules right and justice, must be considered our due. The medic profession is great enough to secure the passage of just law if you will only make up your mind that it is an individual well as a collective work by the members of this society. W must get into practical politics. In addition to a new law f the Board of Medical Examiners, we particularly need a ne State Board of Health law.

A great deal of interest has been manifested throughout t state during the past year in preventive medicine. The wo of the Anti-Tuberculosis Society and the Public Health League is to be especially commended and such work can not fail to impress the public at large that the medical profession is interested in their welfare other than from a mercenary standpoint. A wide spread interest on the part of the profession generally in work of this kind will do more than any other agency to remove antagonism to needed legislation.

Owen Bill

The Owen Senate Bill 6049, providing for the establishment of a Department of Public Health was heartily endorsed, and representatives in congress were urged to use their best efforts to secure the passage of the bill.

Official Journal

The committee on the publication of a medical journal reported that no feasible plan had been found that would give the association a creditable publication at present, and recommended that action be deferred but that investigations be continued with a view of finding plans by which a state publication can be had that would be a credit to the Association.

Education of Public on Health

The following resolutions were adopted and sent to the Superintendent of Public Instruction:

WHEREAS, Health officers and physicians generally encounter antagonism to the proper enforcement of sanitary laws and regulations, owing to the lack of knowledge in hygienic matters on the part of the laity, and

WHEREAS, Many diseases, in the light of present day scientific knowledge, are often unnecessarily transmitted from one person or place to another, and

WHEREAS, In our opinion the best place to disseminate and popularize the knowledge necessary to prevent preventable disease is the public school; be it

Resolved, That preventable diseases should be taught more extensively in our schools.

Public Health Leagues

The Committee on Public Health reported that public health leagues had been organized in a number of places throughout the state and that there was considerable interest manifested in the discussion of tuberculosis, water supply and typhoid fever, sanitation with special reference to water and milk supplies, contagious diseases, insects as carriers of disease, the importance of having a clean city, medical inspection of school children, scarlet fever, the visiting nurses, etc.

Serum Disease or Serum Anaphylaxis

DR. G. F. RUEDIGER, University: Serum disease, as manifested in man, and serum anaphylaxis observed in experimented animals seem to be one and the same reaction. The intensity of the reaction depends on the sensitivity of the person or animal receiving the injection, on the size of the dose and to some extent on the serum injected. Certain precautions should always be observed in the injection of base serum into man. Where there is a history of asthma or of a previous injection of horse serum, the danger should be explained to the patient and friends. Except in urgent cases, a small quantity, such as 0.5 c.c.. should be injected for the initial dose, waiting several hours before a second injection is given. This is to allow the immediate reaction to take place, which, if there will be such a reaction, would be less severe after a small injection than after a large one. After recovering from this reaction more serum can be given with safety. The required amount of antitoxin should always be given in the smallest possible bulk of serum. All the serum required in a case should be given within a short space of time so as not to allow time for hypersensitivity to develop.

Legislative Advances

PROF. E. F. LADD, State Food Commissioner: I believe that through the workings of our food, drug and sanitary laws, something has been accomplished which will be of benefit to preventive medicine, that our people are better nourished now, that flagrant food adulteration is no longer tolerated; that chemical preservatives or germicides are not permitted; that saccharin is not allowed as a sweetening agent in place of sugar; that our meats are no longer embalmed with sulphites or borates; that formaldehyd finds no place in our daily supply of milk; that many badly decomposed products only fit for the crematory are no longer prepared for the table of our laborers; that our beverages are now coming to be more nearly what they are represented to be; that substitution in both imported and domestic drugs is no longer practiced; that drugs must be true to name and of proper strength; that many fake remedies have been exposed and the people shown their true value; that our food supply is better taken care of under our sanitary laws; that food products are not now exposed, unprotected, to the germ-laden dust and filth of the streets; that it is fast becoming a disgrace to tolerate flies where food products are handled and merchants and dealers are protecting their places against the intolerable nuisance of flies, one of the greatest disease distributors of our time. There is no question that cold storage is a most desirable means of preserving for a limited space of time articles of food, but the introduction of cold storage and its monopolization by a few has brought about conditions which may have had an unfavorable influence on the nourishment and health of our people. The use of chemical preservatives in food products is an old question, but nevertheless, it continues to be prominent in the public mind for the reason that there are those who are persistent in using certain classes of chemical preservatives or antiseptics in various food products, while, at the same time, there are others putting up and selling the same class of products without the use of preservatives of any kind. It is now almost universally conceded that the use of formaldehyd is dangerous; that the use of boric acid or hydrofluoric acid is not to be commended; that salicylic acid should be condemned; that sulphurous acid of sulphites should not be used in meats, candies, corn, etc. The general sentiment of those who have studied the matter most thoroughly is that the use of benzoate of soda, sulfurous acid and saccharin is not to be commended and that their use should not be permitted in food products to be used indiscriminately by the general public.

The general consensus of opinion, on the part of the physicians throughout the state, is that preservatives of all classes in food products, beverages, etc., should be discouraged. Drugs differ from food in that drugs and medicines modify some vital action but do not supply food material to sustain that vital action, it is hard to understand how we can endorse the use of drugs in foods and beverages, which drugs are generally employed in medicines. The human body is not a mere machine unacted upon by the material which passes through it. The cells of the human body are living protoplasm, sensitive to the same influences which would destroy the protoplasm of bacteria or micro-organisms. How can we then logically reason that poisons, antiseptics, germicides, which will destroy bacterial protoplasm, shall in no way modify or effect the tissues of the living body, the most highly organized of all protoplasm.

The consensus of opinion of the North Dakota physicians as set forth in Special Bulletin 14 shows that 157 out of the 171 physicians reporting would not allow the use of chemical preservatives such as are named in any article of food; 163 out of the 171 would, under no condition, permit of the use of benzoate of soda in foods which are intended for the use of invalids or infants. In fact, there was only one physician of the 171 who would permit of the use of benzoate of soda in food products unrestricted, and leave it to the public to determine whether or not they desired to purchase the article. Unfortunately, there are found in nearly every large city men who have in some manner secured the degree of M.D. who are either failures in the practice of medicine and so turn to quackery and fraud, or have purposely adopted this easy method of securing money by preying on unfortunate sufferers or on those who are easily misled and made to imagine that every little ache or pain is to be nursed until life to them is almost unbearable. If the medical association of each state had a committee to look after matters of this kind, it would not be long before society would be rid of these *despicable* specimens of humanity who are bringing discredit on the noblest profession of our fair land.

Other Subjects Discussed

The papers submitted were varied and of scientific value and the topics provoked much discussion which was participated in by many of the practitioners. The discussion of the medical practice act was intensely interesting and while there was divergence of opinion as to how it could best be attained, yet the unanimity in the purpose of getting together to accomplish the end sought was the crowning feature of the debate.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting, held in Washington, D. C., May 3-5, 1910

(Continued from page 47)

Tests to Determine Efficiency of Collateral Circulation Before Attempting Permanent Occlusion of Large Arteries.

The points covered in this paper by Dr. R. Matas, New Orleans, are contained and elaborated on in a paper read in the Section on Surgery of the American Medical Association, and which will be published in The Journal.

Case of Hepatico-Duodenal Anastomosis

Dr. George Emerson Brewer, New York: The patient was admitted to the hospital suffering from acute cholecystitis. Following a cholecystectomy, there occurred extensive sloughing of the wound and a complete biliary fistula. At the end of 75 days, as no bile was passing into the bowel, the abdomen was reopened and the fistula followed down to the common hepatic duct. As no trace of a common duct could be found, even after reflecting the duodenum and exposing the head of the pancreas, it was assumed that it had been destroyed by the suppurating process which followed the primary operation. A rubber drainage tube, three inches in length, was introduced into the hepatic duct and also through the duodenum by a stab wound at its upper border, and was secured in these two situations by two purse-string sutures. A mass of omentum was then wrapped around the tube, extending well beyond its introduction in the hepatic duct and duodenum, with a view to create a new common duct, after the manner suggested by Sullivan. The abdominal wound was closed, a small cigarette drain being allowed to remain at its upper angle. From that time no bile appeared in the wound. The bowels moved on the third day as the result of an enema, and the stools contained an abundance of bile. The reconstructed duct continued to functionate until after the man's discharge from the hospital, some four or five weeks after the last operation. Since then he has had two or three attacks of fever, associated with jaundice, which would disappear in two or three days. At the present time he is still jaundiced, although some bile is present in the stools.

Dr. Alexander H. Ferguson, Chicago: Since the observation that if all the bile is directed into the hepatic flexure of the large bowel the patient does not suffer from the lack of bile, I have followed this technic in at least half a dozen cases with extremely gratifying results.

Dr. Joseph C. Bloodgood, Baltimore: I wish to report an anastomosis of the small intestine by opening the transverse colon as in posterior gastroenterostomy, sewing a long loop of the small intestine through the transverse colon, and suturing it to the gall-bladder.

Case of Resection of Pancreas

Dr. J. M. T. Finney, Baltimore: I wish to record the successful removal of a primary solid tumor of the pancreas. The operation involved the resection of the entire middle portion of the gland, leaving only a small piece of the head and the tail, respectively, and necessitating a reunion of these segments by suture. The statistics of the operation for primary tumor of the pancreas are as follows: Of the 17 cases recorded in the literature 12 occurred in females and 5 in males. Carcinoma occurred 10 times, sarcoma 4, fibroadenoma 2, cystic adenoma once. Of the 17 patients 9 recovered and 8 died. In two instances the pancreas has been reported as having been removed *in toto*. Three times the gland was completely divided into two parts and the remaining portion sutured. All three patients recovered

DISCUSSION

Dr. M. L. Harris, Chicago: A policeman was shot by a 38-calibre bullet which entered just below the twelfth rib on the left side and was found just beneath the skin a little to the right of the median line between the eighth and ninth ribs. The track of the bullet was from before backward through the right lobe of the liver, the lesser curvature of the stomach, the middle of the pancreas, practically bisecting the organ, and the left kidney. The stomach was sewed up, then the pancreas, and as close an approximation of parts made as possible. Drainage front and back. A fistula resulted, but closed in about three months and the patient fully recovered.

Dr. Willy Meyer, New York: I have had two cases in which the tail of the pancreas was tightly adherent to the existing tumor, and here I put a piece of chromicized gut around it and divided the distal end with the Paquelin cautery. Both patients recovered.

Dr. Rudolph Matas, New Orleans: I wish to report a cause of thrombosis of the splenic artery involving the pancreatic arterial supply, causing degeneration of the organ from the head to the tail, associated with multiple tumor formation in the spleen. The spleen and three-quarters of the pancreas were removed and the patient recovered from the operation, dying about three years later from a slow fever.

Congestion of the Lower Lobe of the Right Lung an Early Symptom in Appendicitis

Dr. John B. Roberts, Philadelphia: There is a possibility of a secondary congestion of the lower part of the right lung in a considerable number of cases of acute appendicitis in its early stages. This condition may be a possible aid in the diagnosis of acute appendicitis when the symptoms of the latter are not yet very definite. Appendicitis, and perhaps other intra-abdominal inflammations, may cause atelactasis of the right lung, or a true congestion, because of the insufficient action of the diaphragm on the right side. The early congestion of the right lung, which is found in the early stages of appendicitis, might also occur from inflammation of the gall-bladder or cellulitis around the upper pole of the kidney.

Vaccine Therapy as an Adjunct to Surgery

Drs. John B. Deaver, John C. Da Costa and D. B. Pfeiffer, Philadelphia: In addition to its well-known and satisfactory use in suppurative affections of the skin and other forms of minor chronic infection, this form of treatment has been used as an adjunct in the treatment of more severe surgical infective conditions. Vaccines did not prove of service in three cases of streptococcic septicemia in which the treatment was begun late. Four patients with severe staphylococcic septicemia recovered, improvement in each case beginning with the iniation of the vaccine treatment. Eight patients with severe septic intoxication without demonstrated bacteriemia were treated by drainage and vaccines. Two were *in extremis* when treatment was begun and died shortly afterwards. The remainder recovered. Five of the cases were streptococcic infections.

Improvement was also noted in a miscellaneous group of cases comprising persistent sinuses, cystitis, thrombosis, etc. Not all cases, however, gave a definite response. The dosage varied from 25,000,000 to 750,000,000. The sicker the patient and the less satisfactory the response, the smaller and less frequent should be the dose. Streptococcus also was used in smaller dosage than staphylococcus. Specific vaccine treatment has not proved of benefit in the later stages of streptococcic septicemia. Staphylococcic septicemia has been treated with most favorable results at all stages. Septic intoxications without demonstrated blood invasion in a majority of the cases display general and local improvement under the use of vaccines, if given early; the later the treatment, the less certain and satisfactory the result. Localized and persistent suppurating lesions are sometimes markedly benefited by vaccines. Surgical procedures for the relief of infectious conditions should be reinforced by vaccine treatment, which should be begun as early as is consistent with the case, and preferably by autogenous organisms.

Therapy by Bacterins and Tuberculins in Mixed Suppurative Bone and Joint Disease

Drs. DeForest Willard and B. A. Thomas, Philadelphia: We have now had two years of experience in the treatment by bacterins of tuberculous bone and joint diseases, complicated by mixed pyogenic infections. The feature of the treatment consists in the alternation of bacterin and tuberculin inoculations in the mixed suppurative type of the disease, as spinal caries, tuberculous hip-joint disease, etc. We do not contend that bacterin therapy is a "cure all," nor that when indications for surgical intervention exist, they can be disregarded and active immunization substituted. However, the accessory employment of bacterin and tuberculin in certain cases stimulates the tissue cells of the organism to the production of specific antibodies to assist the bodily defenses in antagonizing and combating the given infections. Bacterins, particularly tuberculin, are invaluable aids in competent hands, and when so treated such patients do better than those treated without bacterins; their detention in the hospital is shortened, and complications, if they occur, are fewer and less severe. Studious observations of the clinical symptomatology have always sufficed to control the treatment, the opsonic index proving not only impractical, but unreliable.

DISCUSSION

Dr. J. M. T. Finney, Baltimore: In a case of chronic colon bacillus infection of the bladder, after every other method had failed, injections of vaccine were followed by the most astonishing results, the bladder symptoms all practically disappearing.

Dr. George M. Sternberg, Washington: It is impossible to doubt that vaccine treatment is beneficial in a certain class of cases, but it is difficult to understand why it should be. You have a certain specific microorganism in the blood in large numbers producing toxic products, and why the introduction of a comparatively small number of the same microorganisms under the skin should have such a potent effect in arresting the progress of the disease is inexplicable.

Dr. L. L. McArthur, Chicago: Treatment with the autogenous vaccine of the colon bacillus in several cases of essential hemorrhage from the kidney has been productive of a cure, and I consider this a most beneficial treatment in this condition.

Dr. John B. Murphy, Chicago: Essential hemorrhage of the kidney and essential hemorrhage of the uterus occurring in girls under 20 with tuberculous histories respond marvelously to proper dosage with tuberculin. Great assistance is rendered by this treatment in cases of bone tuberculosis. As a stimulant, and as an aid to surgical tuberculosis, I know of nothing so good when the treatment is carefully administered.

Dr. Joseph A. Blake, New York: I have been employing the vaccine treatment in chronic infections and have found the autogenous vaccines of great benefit.

Dr. Arthur Dean Bevan, Chicago: I have been particularly interested in the application of the vaccine treatment to tuberculosis of the kidney and mixed infection of tuberculosis of the colon, and, although I know of patients who under good management with this treatment have gone on to recovery, I know of patients who recovered without the vaccine treatment.

Dr. Francis B. Harrington, Boston: I have seen some cases in which autogenous vaccines have been of great benefit, and also some cases in which they were productive of great harm.

Dr. Harry M. Sherman, San Francisco: With regard to the vaccine treatment, we have had no success with the streptococcus infection.

Dr. Emmet Rixford, San Francisco: I wish to mention a patient with tuberculous anal fistula, tuberculosis of the spinal cord, and tuberculosis of the wrist, who under treatment with tuberculin was completely restored to health. It has been two years since the treatment. There is now no sign of tuberculosis, and the patient has gained 40 pounds in weight.

Dr. James E. Moore, Minneapolis: I have been disappointed in the serums for the treatment of acute infections. In tubercular cases I have had better results. It is very essential that these treatments should be carried out only by those who know how to use them.

Dr. Charles H. Mayo, Rochester: I have had very little experience with the vaccine treatment, but I have had one case of colon bacillus infection of the bladder and kidney in which the autogenous vaccine proved of benefit.

The Etiology of Cancer Based on Clinical Statistics

Dr. Isaac Levin, New York: My investigations are based on a clinical study of 4,000 cases of carcinoma and sarcoma collected from several large hospitals in the country. The greater frequency of the disease in women is due to the prevalence of cancer of the uterus and the female breast. The other organs become affected more frequently in men, which fact may be due only to the greater subjection of the latter sex to the different injurious influences of civilized life. Cancer, while considered to be a disease of an advanced age, appears, according to this investigation, to occur in many instances in people who have not yet reached middle age. Child-bearing does not seem to have any direct connection with the causation of cancer. Another point of interest is the fact that American Indians rarely contract the disease. The data on the influence of occupation in the etiology of the disease were very defective and no conclusion could be derived from them. The presence of a preceding local disease in the organ affected with cancer, while of certain importance, cannot be considered as the main etiologic factor. Hereditary disposition does not seem to have an influence on the causation of the disease sufficient to warrant the great dread of the lay public before this hereditary trait. It appears evident that a local trauma or previous disease of the affected organ is of less importance in the causation of cancer than the increased vulnerability and lessened resistance of the organism caused by the ever increasing strain of modern life. This is certainly the only explanation that may be offered for the increasing frequency of the occurrence of cancer in civilized communities.

Review of One Hundred and Twenty Resections of the Rectum for Cancer

Dr. William J. Mayo, Rochester, Minn.: The ages varied from 27 to 81 years. There were done by the perineal route 38 operations, by the posterior route 56 and by the abdominal route 26 operations. Three deaths occurred from exhaustion more than four weeks after operation, one from pulmonary embolus, and one from apoplexy. The mortality in the whole series of 120 cases was 20.16 per cent. Four patients are alive and well after 5 years; 13, after 4 years; 63, after 2 years; 102, after one year, and 18 out of 82 operated on less than one year ago.

DISCUSSION

Dr. Arthur Dean Bevan, Chicago: After an experience in some 20 cases of the Kraske operation, we do not employ a single ligature. As we come to the tissues on the sides of the incision freeing the rectum, massive 10-inch or 12-inch clamps are put on the tissues. With the employment of these clamps there is less risk of hemorrhage and a greater saving of time than if an attempt is made at ligation.

Dr. Joseph C. Bloodgood, Baltimore: One of my first cases (operation about six years ago) was such that we were able to save 3 inches of the anus and rectum, making a suture of the sigmoid which was brought down, and this patient is well and has perfect function.

Dr. Alexander H. Ferguson, Chicago: In some of these cases I have resorted to the combined operation in two stages to advantage. Open the abdomen, take the proximal end of the bowel, make an artificial anus, invert the distal end into the rectum—that would be one operation; then, when the patient is in good condition, remove the rectum from below, the bowel being already inverted giving ready access to the mass. By the use of clamps without ligatures the operation can be done in a few minutes.

Dr. Joseph A. Blake, New York: I have had more experience with the combined operation than with any other. I have done 12 consecutive operations without any mortality. The mortality is less, if a permanent colostomy is done.

Dr. G. E. Armstrong, Montreal: In the low cases in which the sphincter has been involved I have sometimes succeeded in getting a satisfactory sphincter by bringing the upper ends down through the lower fibers of the gluteus maximus. One patient operated on ten years ago now has perfect control.

Case of Choriocarcinoma Occurring in a Patient with an Infantile Uterus

Dr. A. Primrose, Toronto: The tumor removed presented the characteristic elements of a choriocarcinoma with a very large proportion of Langhans' cells showing metaplasia and mitosis. A few isolated masses of the syncytium were also present.

Prognosis and Operative Treatment of Fracture of the Base of the Skull

Dr. Joseph Ransohoff, Cincinnati: Of 190 cases occurring during the last ten years in the Cincinnati Hospital, 124 were fatal. Of 42 patients with non-reacting pupils, 41 died. In 5 years there were 19 operations, trephining or decompressive, with 7 recoveries. There will always be a large mortality connected with basal fractures; death resulting from primary shock, brain laceration or hemorrhage. Thirty-seven per cent. of the fatal cases end within 6 hours or less and 56 per cent. end within 12 hours. It is not probable that the mortality of this class of cases can ever be reduced with or without operation. They are primarily fatal. Twenty-three per cent of the fatal cases end during the second day. They are the cases in which the coma is not profound; in which the pupils are not fixed; in which the breathing is not stertorous and in which there is not complete muscular relaxation. With a slow full pulse and lumbar puncture, indicating hemorrhage and increase of intracranial pressure, a trephining operation is indicated. In the doubtful cases an operation is indicated. In this class of cases, where facilities for the major operation of trephining are not at hand, repeated lumbar puncture should be essayed. This procedure may be destined to take the place of decompressive operations. There is a large group of cases in which there is complete consciousness or in which there is a somnolence or milder degree of coma, and in whom the concomitant symptoms do not indicate a grave intracranial trauma either to the brain or its vessels. The pupils, though uneven, react; involvement of one or more cranial nerves may be evident. The symptoms singly or collectively are not ominous at any time. Eighty per cent. of this class of cases have a tendency to get well with or without operation. The patients should not be operated on unless the symptoms indicate an increase of intracranial pressure from hemorrhage, beginning cerebral edema or distinct localizing (cortical) symptoms. There is a distinct class of cases in which operation is indicated. There are cases which, seemingly not severe in the beginning, grow progressively or suddenly worse, showing signs of increased intracranial pressure. Decompressive operations may save a considerable proportion of them. It has yet to be determined where the trephining should be done to obtain the best results. Since most fractures involve the anterior or the middle fossa, subtemporal trephining is doubtless the procedure oftenest indicated. When, however, an hematoma in the mastoid or occipital region indicates an involvement of the posterior fossa, the operation should be subtentorial. To relieve the subtentorial tension by an opening made in the temporal region is illogical and may be dangerous. I attempted it recently in a cerebellar tumor, the site of which could not be determined. The patient succumbed within two weeks with symptoms of bulbar paralysis.

Dr. Frank E. Bunts, Cleveland: In an ordinary case of fracture of the base of the skull in which the blood pressure can be obtained, a beginning choked disc and edema and hemorrhage in the brain are detected, the decompression operation should be performed, and in many such cases we may expect altogether beneficial results.

Dr. G. E. Armstrong, Montreal: If in these cases the pressure is substantial, as indicated by the respiration, aspiration of the cerebro-spinal canal may prove very injurious.

A Method of Overcoming the Shortening in Old Fractures Treated by the Open Method

Dr. Edward Martin, Philadelphia: The method consists in using a long, strong canvas strip pocketed in the middle and looped at the ends. The bones at the seat of fracture are freed, the pocket is slipped over the proximal end of the distal fragment, the ends of the canvas strip are carried in the long axis of the limb, and in the loops is fixed a cord to which are attached the weights. By thumb pressure the bone is kept from angling out of the wound, and weights up to 100 pounds or even more, are attached to the rope. In from three to five minutes the shortening is overcome. Only those structures which interfere with proper placement are stretched, and this is done so thoroughly that there is but slight tendency to the reproduction of deformity.

Dr. Richard H. Harte, Philadelphia: A pulley similar to that used on boats, a double and single pulley, is the best type of extension. These should not be close together, but enough line between them to allow of manipulation of the limb by the operator. After the ends of the bone are exposed, disengage the bands of tissue by the employment of steel elevators. It is important to do as little damage as possible to the tissues. I do not consider silver plates strong enough to hold the bones in position and therefore would always advise the use of a heavy steel plate, such as that suggested by Lane.

Dr. Albert J. Ochsner, Chicago: A method which we use almost entirely consists in the slow stretching of the muscles, instead of the rapid stretching, and the only thing that is peculiar about the method is the application of rubber adhesive strips to as high a point above the seat of fracture as is possible. For instance, instead of applying the rubber adhesive up to the fracture, it should be applied over the entire length of the thigh, then, with no more than 24 pounds of weight, we have, in every fracture where there has not been a union, been able to stretch the muscles sufficiently to replace the fractures without making a resection of the ends. In cases in which there is a union in malposition the muscles will stretch to a marked extent. It is important to use two Lane plates with two screws at each end in order to keep the bones from slipping.

Dr. Harry M. Sherman, San Francisco: I use two hanks of yarn applied as perineal straps, the weight coming on the tuberosity of the ischium. On the foot is put another hank of yarn. The pulling on the bones has been measured, and over 200 pounds of weight have been applied in some cases without injury to the ligaments of the ankle or knee, and that is sufficient to pull out any tissue interfering with the approximation of the bones.

Fracture Dislocations of the Os Innominatum

Dr. Harry M. Sherman, San Francisco: Simple uncomplicated fracture of the pelvic bones is not of necessity a serious lesion, and healing can be expected in an ordinary way as after a fracture of a bone of an extremity. The really serious lesion is the complication of injuries to the bladder, the intestines or the vascular system. Injuries to the bladder are more likely to occur when the fracture has been due to antero-posterior compressive force. Injuries to the urethra are more apt to occur when the fracture was due to transverse compressive force. The present indications are to open at once the space of Retzius and make a reverse catheterization and perineal section with lateral incisions in the groin and perineum for drainage of all areolar planes. With this technic the mortality should be reduced to about 33 per cent. as against 60 per cent.

Dr. Arpad G. Gerster, New York: I have had a case of fracture of the female pelvis on the left side in which there was no injury to the urethra, although it was compressed to such an extent by a solid blood clot that retention followed and had to be relieved for 15 or 16 days by the use of the catheter. There was no other injury present and the woman recovered. Another case was one in which there was fatal hemorrhage following fracture of the pelvis. Postmortem revealed extensive laceration of one of the common iliac arteries and subperitoneal hemorrhage.

Momburg's Method of Artificial Anemia by Suprapelvic Constriction

Dr. Arpad G. Gerster, New York: The method consists in the application of the Esmarch principle to the waist and to the abdominal aorta, which thus, by the superposition of from two to six turns of the elastic cord, is compressed against the lumbar spine. The apprehension that the necessary amount of constriction might damage the gut has not been justified by experience. The interruption of the aortic blood current is regularly followed by a marked rise of the blood pressure and its restoration by a still more marked cardiac depression, which, in patients afflicted with arterio-sclerosis, myocarditis, or even well compensated valvular lesion, may attain alarming proportions. Hence, Momburg's method is not suitable in these cases. In healthy and young individuals, however, its use is free from danger. The method's greatest utility for life-saving has been demonstrated in postpartum hemorrhage, where it affords the advantage of an easy and prompt control of the loss of blood.

Dr. Joseph Ransohoff, Cincinnati: I have seen this method pursued in one case, and in this no ill effects resulted from its employment.

Dr. Rudolph Matas, New Orleans: I have pursued some experiments among students with this method, but found that a fair test of it could not be made unless the patient was anesthetized in order to gain complete relaxation. From our very imperfect experiments, however, it was shown that in all weak hearts you are liable to have prompt failure; instead of noting the usual increase in blood pressure, there will be a fall, and this, we feel, indicates an inability on the part of the heart to keep up. I would not advise the use of the Momburg constrictor in any patients suspected of having any cardiac irregularity, but believe it will prove of great benefit in producing artificial anemia in strong, robust individuals without being followed by any ill effects.

Operative Treatment of Tumors of the Hypophysis

Dr. A. E. Halstead, Chicago: The routes of approach previously advocated have been the intracranial and the extracranial. I propose what I term the oro-nasal route, which I employed successfully in one case. It is a modification of the infranasal method of approach, but is without the trauma and disfiguration which must follow the König operation.

DISCUSSION

Dr. S. J. Mixter, Boston: I wish to present a case operated on by the route suggested by Kanavel. There was a large cyst in the hypophysis filled with cholesterin and holding about one and a half to two ounces of fluid. The patient made a good recovery after the operation and his vision, which before was extremely poor, has been benefited.

Dr. Harvey Cushing, Baltimore: The various means of approach to the hypophysis do not make so much difference as does the matter of dealing with the structure when it is brought into view. The growth often becomes malignant, as is true of long-standing trouble with the thyroid, and it is conceivable that it cannot be removed entirely. In fatal cases it has often been found that only a mere fragment of the growth has been taken away. The operation, in the first place, has for its object the relief of pressure; the symptoms can be combated by the mere removal of the lower part of the sella turcica and the splitting of the capsule of the gland.

Dr. A. B. Kanavel, Chicago: Concerning the technical procedure in Dr. Halstead's cases, in the first one particularly, the view could not have been better. The operation was very quickly done, the anterior wall of the sphenoid sinus quickly removed, the bulging sella turcica opened, and a tumor protruding into the sinus was removed without difficulty. In the second case the sella turcica did not bulge into the sinus; it was seen with more difficulty and was arrived at by anatomic deductions. In two cases there was considerable hemorrhage, and I would suggest the elevation of the head during the operation. In the majority of cases it will only be necessary to remove the vomer and the anterior portion of the sphenoid in order to come down on the sella turcica.

Benign Bone Cysts, Osteitis Fibrosa; Giant-Cell Sarcoma and Bone Aneurism of the Long Bones

Dr. Joseph C. Bloodgood, Baltimore: The so-called benign bone cyst may present itself in five forms: First, as a medullary cyst without any definite gross lining; second, as a similar cyst with a definite connective tissue lining which is easily stripped from the bony capsule; third, as a medullary mass of fibrous tissue with a small cyst; fourth, as the same medullary mass of fibrous tissue without any cyst formation; and, fifth, as multiple medullary cysts. Among 89 cases on record 69 belong to the variety of true localized bone cyst or osteitis fibrosa. The other 20 cysts have different etiologic factors; for example, cysts in enchondroma, in pure myxoma, in giant-cell sarcoma, in osteitis deformans; cysts due to subperiosteal ossifying hematoma, and callous cysts. The so-called bone aneurism is a much less frequent tumor and is distinctly malignant. It is a hematoma due to hemorrhage in the most malignant form of medullary, spindle, round or mixed-cell sarcoma, and I am of the opinion that in this stage of this tumor metastasis has already taken place, so that no harm could come from mistaking such a tumor for a bone cyst or giant-cell sarcoma. I have seen three cases, one of which was not saved by the highest amputation; in the second case amputation was refused; the third case was first treated as a bone cyst; amputation was done later, but the patient died of metastasis.

DISCUSSION

Dr. Rudolph Matas, New Orleans: In one case in which, after removal of a giant-cell sarcoma from the humerus, there was a large cavity, I used about an ounce and a half of Mosetig cement, and the patient later developed extreme symptoms of iodoform poisoning from which he recovered in 10 days and the arm healed with a perfect contour of the bone. I believe that in the bismuth paste we have a most valuable means of filling up cavities.

Dr. William L. Rodman, Philadelphia: I recall a case operated on in 1889 for large giant-cell sarcoma of the lower jaw by free chiseling and curettement, but without removal of the maxilla. The patient lived for more than ten years after this operation, and may be alive to-day.

Dr. Joseph A. Blake, New York: I had a case of sarcoma of the fourth finger. A simple operation in this case proved most satisfactory, and now, three years since operation, there is a normal phalanx.

Dr. Harry M. Sherman, San Francisco: In my experience salt solution poured into these cavities a little in excess just before the last stitches are taken is as good as any other material for filling. It is replaced by blood and obviates the necessity of putting in any foreign body.

Dr. Dudley P. Allen, Cleveland: Some years ago I removed the lower jaw of a patient for giant-cell sarcoma, leaving but a small portion of the substance of the jaw. I used a splint to hold the teeth in place. The patient recovered entirely and is now well.

Dr. William S. Halsted, Baltimore: In a case of myxoma of the humerus, although the disease involved the bone from one end to the other, there was no cyst and no fibrous tissue. The bone was excised four years ago excepting for a strip posteriorly and at the lower end, and the entire cavity carefully swabbed out with phenol. The patient made a good recovery and had a strong humerus, but there were implantation recurrences in the soft parts on two occasions. The patient is now perfectly well.

Dr. Nathan Jacobson, Syracuse: I recall a case of giant-cell sarcoma of the jaw in which I did a partial excision of the upper jaw for giant-cell sarcoma about 25 years ago. The patient is still living. There was never any recurrence. In my experience in those cases of giant-cell sarcoma where there is reasonable cleaning out there is seldom a recurrence of the growth.

Dr. A. Von Eiselsberg, Vienna: In such cases as these we are in the habit, before finishing the operation, of pouring boiling water into the wound in order to destroy all the germs, and have found it a most satisfactory method.

Diagnosis and Surgical Treatment of Esophageal Diverticula

Dr. Charles H. Mayo, Rochester, Minn.: Most cases of esophageal diverticula are pharyngo-esophageal. The condition is confined to adults. Dysphagia is the most common symptom; cough and dyspnea are common. Distended sacs are often visible in the neck and can be emptied by pressure. The condition is disclosed by probing and by radiograph of the bismuth-distended sac. H. S. Plummer's method of diagnosis is a combination of the technic of Mixter and Dunham, as used in stricture. The patient swallows a silk thread which passes into the intestine. The Plummer perforated acorn probe passed on the thread gives the depth of the pocket and location of its neck. Gastrostomy for temporary feeding may be necessary. Operation is by lateral oblique incision; blunt dissection; exposure of sac and excision; closure by suture; rubber tissue drain. There have been 8 patients in the Rochester clinic; 6 operated on successfully and 2 not operated on.

DISCUSSION

Dr. Samuel J. Mixter, Boston: I have operated in 3 cases of esophageal diverticula. When operation is not done, by the passage of very large bougies or probangs by means of a string guide a sufficient dilatation of the spur can be caused to allow the passage of food sufficient to keep the patient alive. I have about half a dozen such cases now.

Dr. George W. Crile, Cleveland: I wish to record two cases of operation for esophageal diverticula, in both of which recovery resulted.

Dr. John B. Murphy, Chicago: The enucleation of the sacs of diverticula is not a difficult matter in itself, but it leaves a large cavity, and it is difficult to avoid the danger occurring from leakage at the suture, infection from the mouth, and particularly the action of the salivary glands on the loose connective tissue of the mediastinum. I believe not opening the sac at all is the only safe procedure.

Dr. George E. Brewer, New York: The presence frequently during the day of an accumulation of thick, tenacious mucus which the patient will regurgitate to get relief is a characteristic symptom of esophageal diverticula. My own experience has been limited to 3 cases and one operation, on a woman, 80 years of age, who had lost 50 pounds through starvation. She made a perfectly good recovery from the operation.

Dr. Albert Vander Veer, Albany: I would refer to two cases of esophageal diverticula, one in a physician who refused to have an instrument passed and who subsequently died of an acute pneumonia; the other occurring in a woman, about 50 years of age, in whom it was impossible to get into the stomach with any form of instrument, and I therefore did a gastrostomy. The patient made a splendid recovery. She now alternates between tube feeding and the natural method.

Some Observations Regarding Thoracic Surgery on Human Beings

Dr. Willy Meyer, New York: I have operated in 10 cases with the help of my differential pressure apparatus for affections of the pleura, lung and esophagus. In the case of two young patients, 6 and 11 years old respectively, who had suffered for years from bronchiectatic abscess symptoms, and were bad risks, I extirpated a lobe of the lung in each case, but neither recovered. Three times exploratory thoracotomy was done for cancer of the esophagus with recovery. In order to do good surgical work when operating for a malignant stricture of the esophagus, I have found it necessary to get the scapula out of the way and, therefore, propose as a preliminary operation the Schede-Friedrich flap operation, by which the entire shoulder girdle is turned up, thus permitting the surgeon to make his incision into the thoracic cavity wherever required; often two incisions are necessary.

The only hope of operative success in cases of esophagus cancer lies in early operation, certainly before the intimately adjacent pneumogastric branches are involved, and the first step of such operation should be to free these nerves. Their involvement will more or less decide the operability or inoperability of the given cases. Up to the present time resection of the esophagus has a mortality of 100 per cent.

End-to-End Intestinal Anastomosis by the Invagination Method

Dr. C. L. Gibson, New York: End-to-end intestinal anastomosis by telescoping one segment into the other has been practiced from time immemorial, but at present has no recognized position in surgery. As a result of animal experiments and five successful cases I believe that with my present technic it furnishes a method for which there is a demand, particularly in the surgery of the lower end of the colon. The technic is as follows: The upper cut edge of the gut is seized with two Kocher clamps and introduced into the lumen of the lower end and maintained there by an assistant. The extent to which it is feasible to accomplish this invagination will vary. The gut is rotated about a quarter circle so that the non-peritoneal covered surfaces do not entirely approximate in the circumference. Eight to twelve interrupted silk sutures are introduced thus. A Lambert suture is begun on the lower segment, the needle issuing just short of the cut edge, on the upper segment the needle is introduced just above the line where the cut edge of the lower segment lies against the intact wall of the upper. When the knot is tied the free cut edge has been turned inward, and only the peritoneal surfaces are in contact. A continuous running suture is applied over this area further invaginating the first ones, the Kocher clamps being previously withdrawn.

Dr. Charles H. Mayo, Rochester, Minn.: The invagination method is a good one in the removal of tumors low in the sigmoid, at the upper rectum; in fact, it is about the only way you can get a union, to invaginate the upper end into the lower.

Abnormal Position of the Duodenum

Dr. G. E. Armstrong, Montreal: In the anomaly reported the duodenum ran to the right and then turned downward external to the hepatic flexure, ascending colon and cecum, and, merging into the jejunum, passed from without inward below the cecum into the small intestine area. The duodenum was completely surrounded by peritoneum. It had a long mesentery throughout and could easily be held two or three inches in front of the abdominal wall. The head of the pancreas, closely applied to the duodenum, was visible and palpable between the layers of the duodenal mesentery, and readily followed the duodenum when the latter was brought outside the body. There was no ligament of Treitz and no fossa duodeno-jejunalis. The condition is clearly one of arrested development. The cecum in this case did not mount upwards to the lower hypochondrium and did not pass in front of the loop of the duodenum. The cecum did not descend to its usual final resting place in the right iliac fossa. It was high, completely surrounded by peritoneum, very movable, and could be brought out through the epigastric incision and held eight inches in front of the body.

DISCUSSION

Dr. Maurice H. Richardson, Boston: I have observed a case in which the appendix, the gall-bladder, the liver and the ileocecal valve were on the left side, the spleen on the right side, and the heart on the right side.

Dr. Emmet Rixford, San Francisco: I would put on record a case of failure of rotation of the primary intestine.

Dr. Leonard Freeman, Denver: I had a case in which acute dilatation of the stomach followed an unimportant pelvic operation, and which at autopsy showed the duodenum passing directly beneath the liver and firmly attached to the posterior abdominal wall and around the right side as far as the hepatic flexure of the colon.

Dr. Joseph A. Blake, New York: I have met with two cases of abdominal position of the duodenum.

Dr. Alexander Primrose, Toronto: I would emphasize the fact that these conditions of abnormality in the position of the duodenum may occur without giving rise to the slightest symptoms.

Dr. Joseph C. Bloodgood, Baltimore: I would record one other anomaly of the intestinal tract which I think must be very unusual, namely, absence of the appendix.

Medicolegal

Violation of Medical Practice Act by "Doctor of Vital Science"

The Supreme Court of Iowa says, in State vs. Adkins (124 N. W. R. 627), that, prior to having attained his majority, the accused had led a bucolic life, and thereupon entered a "college of psychic-sarcology" in Missouri. Three years were devoted to the study of psychology, neurology, hygiene, dietetics, biology, anatomy, diagnosis, and actual practice. Having passed an examination on all branches appertaining to the science of "vital healing" he was granted a "diploma," and the degree of "doctor of vital science" conferred on him. Equipped with "all the rights and privileges pertaining to said degree," he returned to his father's house with the benevolent design of curing "all diseases without drugs, medicines, or surgical operations."

Quite naturally he first directed his attention to the appendix, insisting that "no part of the body is useless, but it takes all and every part to make up the perfect machine." In the local newspaper he wrote eloquently of the wrongs perpetrated by modern surgery, and directed attention to his "own peculiar methods" of healing by "natural laws." "When people learn," he said, "what appendicitis really is, they will understand that the removal of the vermiform appendix by a surgical operation is a crime against Nature. Then surgical operations will be abandoned and rank thereafter as a cruel and barbarous practice—the outgrowth of ignorance and stupidity. . . . Appendicitis as well as most every kind of disease yields very readily to the vital science treatment, which . . . is applied by Dr. L. M. Adkins' own peculiar methods and there are evidences of remarkable cures. For testimonials and other information call on or address Dr. Adkins," etc.

Later on, in sympathetic exaggeration, he again undertook to turn people from the surgeon's knife to "vital science institute . . . where all manner of diseases are treated successfully. . . . Surgical operations to remove the appendix have been a costly experiment to humanity. Not only has the sufferer been subject to the torture of the surgeon's knife, from which many never recover, but, should life be continued, a recent discovery of medical experts shows that eighty per cent. of those who survive the operation for appendicitis afterwards go hopelessly insane. This hitherto unthoughtof calamity will bring sorrow and regret to the homes of thousands of the survivors of this terrible operation. While people are suffering and dying with appendicitis, the news is being carried to all parts of the country of the new method known as vital science, which cures appendicitis in almost every case. This method of treatment uses neither drugs nor surgical operations, but is in perfect harmony with Nature's laws. There is a place in this city where the vital science treatment is given, known as the vital science institute, where all manner of diseases are treated successfully. For further information call on or write Dr. L. M. Adkins," etc.

He testified that he had treated several patients, and thus described his method: "Our system of treatment is by manipulation, stimulating the nerve centers so as to increase their vital force, the action of the blood and also the action of the muscles and all of the organs of the body, stimulating them up to their normal action by physical contact."

Enough has been said to indicate that the young man, even though a genius in the healing art, both publicly professed and undertook to heal and cure the afflicted, and, as this was without first having procured a license from the state board of medical examiners, he was rightly convicted of practicing without a license; and the judgment is affirmed.

Essential to Charge of Unlawfully Issuing Prescription for Liquors

The Kansas City Court of Appeals says that the case of State vs. Hume (124 S. W. R. 1099) was begun by an information charging the defendant, a physician, with unlawfully issuing a prescription for intoxicating liquors, in violation of Section 3050 of the Revised Statutes of Missouri of 1899, but that the conviction was not warranted. No offense was charged in the information. The innocence of the defendant should have been negatived. The charge was so framed that while it charged the intoxicating liquor was to be used as a beverage, and not a medicine, by the man who obtained the prescription, it did not connect the defendant with a knowledge of that fact, or with a purpose or intent of its being so used. If an indictment should charge that a physician issued a prescription to a person for intoxicating liquor "to be used" as a beverage, it might very well be said, thus closely connected, that that was charging that the physician issued it for the purpose of its being used to get the liquor as a beverage. But here the matter of the charge of issuing the prescription was so disconnected from the use to which the liquor was to be put by the party obtaining it that, while the latter was well charged with the unlawful and guilty knowledge and intent, the physician was not included with him. As was said in another case, on the same subject, a distinction is observed and must be taken by the court in administering the statute's provisions, between the contemplated use of the prescription and the contemplated use of the liquor after it is procured.

Ancestral and Personal Disabilities No Defense to Crime

The Court of Appeals of New York says, in the homicide case of People vs. Coleman (91 N. E. R. 368), that certain affidavits, briefly summarized, indicated that the defendant had been a backward, sickly child, somewhat weak-minded and morose, given to occasional periods of religious exaltation, suffering much from indigestion and headaches, and predisposed to pulmonary troubles; that his father was a dyspeptic; that there was tuberculosis in his mother's family; that his sister died of that disease; that his great-grandmother was insane; that a paternal aunt had violent hallucinations; and that an uncle was a religious fanatic. But all these things might be true without connecting the defendant with any taint of insanity or defect of reason that rendered him legally irresponsible for his acts. Few human beings are physically or mentally perfect. A large percentage of the human race are the victims rather than the beneficiaries of their heredity. If there were no physical and mental defectives, there would probably be no crime. Such a family history as was ascribed to the defendant is not uncommon in criminal annals. There was an utter absence of evidence tending to show with reasonable certainty that the defendant at the time he killed his wife labored under any defect of reason which rendered him incapable of knowing the nature and quality of his act or of knowing that it was wrong. Measured by that legal test, the evidence submitted on the motion for a new trial was insufficient and the application was properly denied.

Waiver of Privilege as to One Physician a Waiver as to All

The Kansas City Court of Appeals says, in the personal injury case of O'Brien vs. Western Implement Manufacturing Co. (125 S. W. R., 804), that the plaintiff had two physicians attending his injuries, one of whom he introduced as a witness, who testified as to such injuries. The defendant called the other physician, and offered to prove by him the condition of the plaintiff's injuries at the time. On objection by the plaintiff, the witness was excused on the ground of his incompetency. This was error. Having introduced one of his physicians to prove the condition of his injuries, the plaintiff waived the privilege of the statute. It is universally held that this, being a personal privilege, may be waived. In Elliott vs. Kansas City, 198 Mo., 593, the court in passing on the question held that, where the privilege of the statute had once been waived, the waiver could not be withdrawn. The plaintiff's assumption was that, notwithstanding the privilege was withdrawn by the introduction of one of his physicians, it was not waived as to the other. His position was not tenable. In the above case the court quotes with approval the holding in Morris vs. Railroad, 148 N. Y., 92. It is there said: "When a waiver is once made, it is general, and not special, and its effect cannot properly be limited to a particular purpose or a particular person. After the information has once been made public, no further injury can be inflicted on the rights and interests of the patient, as the statute was intended to protect, by its repetition at another time or by another person."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Note.—In the *Boston Medical and Surgical Journal*, June 2, appeared an article on "Therapeutic Value of Lactic Acid Bacteria," by Dr. L. S. Medalia, which was abstracted in The Journal, June 18, 1910, p. 2095, No. 12, and was credited to Dr. Gilpatrick, whose article on "Gangrene Due to *Bacillus Aerogenes Capsulatus*" also appeared in the *Boston Medical and Surgical Journal*, June 2, but was not abstracted.

New York Medical Journal

June 25

1 Etiology and Symptomatology of Infantile Scurvy. J. P. C. Griffith, Philadelphia.
2 *Pathology of Infantile Scurvy.* C. A. Fife, Philadelphia.
3 Treatment of Infantile Scurvy. M. Ostheimer, Philadelphia.
4 Prognosis and Differential Diagnosis of Infantile Scurvy. T. LeBoutellier, Philadelphia.
5. Death by Lightning. J. Knott, Dublin, Ireland.
6 Roentgen Therapy in Gynecology. M. W. Griscom and G. E. Pfahler, Philadelphia.
7 A Clinician's Attitude Toward the Revision of the Pharmacopeia. W. Coleman, New York.
8 *Pharmacopeia Revision from the Standpoint of the Medical Teacher of Drugs. W. A. Bastedo, New York.
9 Physicians in Fiction. C. D. Spivak, Denver.

8. **Pharmacopeia Revision.**—From the point of view of the medical teachers of drugs, according to Bastedo, a large and comprehensive pharmacopeia is not of necessity a disadvantage, and, by allowing for diversity of opinion, may be an advantage. Medical teachers have a deep interest in the formulation of principles to govern the selection and standardization of preparations and their doses. For the revision, Bastedo suggests as desirable for teaching purposes the omission of confusing duplicates, and of crude commercial substances for internal use whose preparations are made of some different form of the drug; the simplification of mixed remedies; the standardization of doses of potent preparations strictly in accordance with the amount of drug represented; and, where practicable, uniform percentage strengths for all potent preparations of a given class. Further, the teachers would desire the addition of the genitive ending of the Latin name of each drug and the accusative ending for names of prepared objects, such as compound cathartic pills; also with each drug a list of its pharmacopeial preparations with their strengths.

It will be agreed, he says, that, for medical teaching, which must of necessity be in advance of the practice of the main body of the profession, the selection of drugs should be based on reliable pharmacologic and clinical data regardless of the extent of their use. But for a working formulary and book of standards, such as the pharmacopeia, the selection should be based on the extent of use as indicated by the prescriptions of practitioners in all parts of the country. The dropping from use of the inferior substances will depend largely on the establishment of more uniform and more scientific teaching.

Medical Record, New York

June 18

10 Placenta Prævia. E. P. Davis, Philadelphia.
11 *Deep Perineural Injections for the Relief of Trifacial Neuralgia and Sciatica. D'O. Hecht, Chicago.
12 Immunity in Tuberculosis Considered from Both the Experimental and Clinical Standpoint. F. M. Pottenger, Monrovia, Cal.
13 *Unusual Complications Occurring in Three Cases of Rhizomelic Spondylosis. E. M. Williams, [illegible]
14 *Ileus Following Laparotomy.* A. H. L[illegible]
15 *The More Liberal Diet in Typhoid F[illegible] Washington, D. C.
16 The Dowd Phosphatometer. J. H. Dowd, Buffalo.

June 25

17 *The Function of the Corpus Luteum, the Experimental Production of the Maternal Placenta and the Mechanism of the Sexual Cycle in the Female Organism. L. Loeb, Philadelphia.
18 The Affections Clinically Simulating Typhoid, with Special Reference to Brill's Disease. H. F. L. Ziegel, New York.
19 *Amebiasis with Report of Forty-two Cases. W. Allen, Charlotte, N. C.
20 The Care of the Mammary Glands, Before, During and after the Puerperium. J. H. Tebbetts, Hollister, Cal.
21 Proctitis as a Cau[illegible] M. L. Bodkin, Brooklyn.
22 Dextrocardia. G. [illegible] Weinsberg, St. Louis.

11. **Perineural Injections for Trifacial Neuralgia and Sciatica.**—Hecht has treated 60 cases of trifacial neuralgia by deep injections of alcohol, 70 to 90 per cent with success. A total of 180 injections was given, an average of 3¼ injections, to subdue pain. Thirty-seven patients were distinctly benefited; eleven were improved; eight unimproved; four were aggravated. One patient was free from pain for a year and eight months; the shortest interval of freedom from pain was 2 weeks; several were free from pain for a year. If reinjected, pain was again subdued.

13. **Rhizomelic Spondylosis.**—Williams gives the histories of three cases of rhizomelic spondylosis in which there were great weakness of the muscles of both legs, with permanent unilateral toe-drop, sensory changes resembling those found in syringomyelia, and an unusual form of vertebral exostosis. A fact of importance is intermittence of the joint affections, they becoming almost well at times, and later being again involved.

15. **Typhoid Fever.**—Claytor pleads for a more liberal diet in typhoid. His patients are far more comfortable, not having that ravenous hunger that patients have when fed entirely on liquids, are not so profoundly nervous, and are better nourished. Neither hemorrhage nor perforation is more frequent than among those kept on liquids, and delirium is less pronounced. Convalescence is more rapid, and the patients return to a good general condition and a normal physical and mental state far more rapidly. The diet should be such as to keep up the body equilibrium as much as possible; it should be easily digestible, innocuous and palatable. Claytor allows soft-boiled eggs, scraped meat, rice, scraped apple, custard, etc.

17. **Function of the Corpus Luteum.**—The principal features in the sexual cycle Loeb believes to be as follows: At a certain period the animal enters the period of heat; a few ovarian follicles rupture and become transformed into corpora lutea. In the early stages of their life, the corpora lutea constitute one of the factors initiating growth processes in the uterine mucosa by means of an internal secretion. If no pregnancy takes place, these proliferative phenomena are slight. If pregnancy does take place, the ovum adds a mechanical stimulus to the sensitizing action of the corpus luteum and a maternal placenta is produced. The ovum can be substituted by an indifferent foreign body. Within a few days this receptive period of the uterine mucosa is followed by a refractory period, in which the uterus no longer reacts to mechanical stimuli, notwithstanding the functionating of the corpus luteum. In this period the corpus luteum exerts a new function, it prevents the rupture of new follicles and prolongs artificially the period of the sexual cycle. During pregnancy some factor extends the life of the corpus luteum, and the period of the nonrupture of follicles is thus prolonged. At the end of the pregnancy, the corpus luteum degenerates, new follicles rupture, and a new cycle begins; the pregnancy as such does not, however, prevent a new rupture of follicles. If no pregnancy is present the factor that prolongs the life of the corpus luteum is absent. The corpus luteum degenerates much earlier and permits new follicles to rupture. The changes in the corpus luteum and in the uterus are accompanied by rhythmic changes in the ovarian follicles. The conception of this mechanism is not hypothetical, but rests on a secure foundation of experimentally established facts.

19. **Amebiasis.**—Of the 42 patients seen by Allen since April, 1908, 12 died, a fatality of 28 per cent.; 16 of the 42 gave no history of frequency of the bowel movements; 10 out of 16 had bald tongue, which Allen believes to be indistinguishable from that of pellagra. Of 25 cases in which the hemoglobin was estimated, in 6 it was about 80 per cent., and in 19 below 80 per cent.; in 1 the hemoglobin was below 10 per cent. In making a routine blood examination the presence of a moderate eosinophilia has repeatedly directed Allen's attention to the intestinal tract, with the result that amebas were found in the stools. Out of 29 cases in which differential counts were made, 14 showed eosinophilia of 5 per cent. or over, 2 between 4 per cent. and 5 per cent., and 11 below 4 per cent.; one case complicated by *Ascaris lumbricoides* showed 17 per cent.,

and one complicated by hookworms showed 5.2 per cent. In 1 case of combined amebiasis and ankylostomiasis the removal of the hook worms caused the eosinophilia to drop from 10 per cent. to 5 per cent. in 8 months. This leads Allen to believe that a moderate increase in the eosinophils will be found in over 50 per cent. of patients, if not less than 500 white cells be counted.

Since amebas can be grown in alkaline bouillon, the reaction of amebic stools may prove of interest. In 14 cases in which this point was noted, litmus paper showed 10 alkaline, 2 neutral and 2 acid; unfortunately, these acid stools were not tested with phenolphthalein. In this connection it is interesting to note that out of 35 cases *Trichomonas vaginalis* was present in 19 patients. In three patients a diagnosis of abscess of the liver was made; two of these left the hospital within 24 hours and were lost sight of; the third patient showed abscess at autopsy.

Although all known methods of treatment were tried by Allen, he is confident that not a single permanent cure has been effected. Hence, he concludes that treatment has been radically defective, or that the medical treatment of amebiasis is only palliative, and can hold out no hope of a permanent cure.

Boston Medical and Surgical Journal

June 23

23 *Dyspepsia and Indigestion Viewed from a Surgical Standpoint. J. C. Munro, Boston.
24 One Hundred and Seventy-two Patients Treated at the Massachusetts General Hospital for Inguinal Hernia in the Year 1905, with the End Results of the Operations. C. C. Simmons, Boston.
25 Arthrodesis and its Application in Infantile Paralysis of the Foot. W. R. MacAusland and B. E. Wood, Boston.
26 *The Effect of Tobacco on the Ear and Upper Respiratory Tract. H. O. Reik, Baltimore.

23. **Dyspepsia and Indigestion.**—Munro urges the general practitioner to consider the probability of some simple surgical lesion of the abdominal viscera in his cases of persistent recurrent indigestion; that where such a lesion does exist, surgery is the safest and surest means at our disposal to bring about a permanent cure; that his neurotics with indigestion secondary to surgical lesions have the right of relief from their local trouble; that, finally, there is a type of dyspepsia most naturally ascribed to gastroduodenal ulcer, but which is really secondary to an appendicitis and which is curable to a degree not yet definitely determined by a simple appendectomy.

26. **Effect of Tobacco on Ear and Upper Respiratory Tract.**—From such facts as Reik has been able to collect it does not appear, at least it has not been proved, that tobacco causes any definite characteristic lesions of the nose, throat or ear. While it is possible that the excessive use of tobacco may, by indirect action, produce a toxic effect on the olfactory and auditory nerves, with resulting impairment of the sense of smell or of hearing, there is not at the present time any definite laboratory proof for such an opinion, nor is there sufficient clinical evidence to substantiate the belief. The ill-effects of tobacco smoke on existing diseases of the throat, arising from other causes, is established and is the same as would be observed from any other form of irritation.

That gastric and systemic disturbances may arise from excessive use of tobacco, in any of its forms, is unquestioned; the nicotin content of tobacco is a recognized poisonous substance and, in the process of smoking, there are evolved other injurious chemical products. Carbon monoxid is probably a more dangerous and injurious constituent of tobacco smoke than is nicotin, only a very fractional amount of which ever enters the tissues. If there is any more danger to be anticipated from cigarette than from cigar smoking it is to be looked for solely in the inhalation of the smoke; cigarette smoking without inhaling is no more injurious than is pipe or cigar smoking. probably not so much so, unless enormous numbers be smoked.

Lancet-Clinic, Cincinnati

June 18

27. Otitic Meningitis. L. D. Brose, Evansville, Ind.
28 The Trained Anesthetist. M. Porter, Dayton, O.
29 The Relation of Human and Bovine Tuberculosis. P. G. Wooley, Cincinnati.

Northwestern Lancet, Minneapolis

June 15

30 *Tetanus. A. E. Wilcox, Minneapolis.
31 Vaccine Therapy. H. L. Ulrich, Minneapolis.

30. **Tetanus.**—Wilcox emphasizes the importance of regarding a certain class of wounds with suspicion, and the results to be obtained from large, repeated, prophylactic injections of antitetanic serum and the value of intraspinal injections of magnesium sulphate to control the spasms, thereby assisting Nature in eliminating the toxins which have become fixed in the nervous tissues. He holds that the intraneural injection of antitetanic serum deserves a thorough trial in conjunction with the above.

Journal Indiana State Medical Association, Fort Wayne

May

32 *Estivo-Autumnal Malaria. G. D. Marshall, Kokomo.
33 Treatment of Pulmonary Hemorrhage. T. Potter, Indianapolis.
34 One Thousand Obstetrical Cases without a Maternal Death. S. Kennedy, Shelbyville.
35 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
36 Occipito-Posterior Positions. B. F. Kuhn, Elkhart, Ind.
37 Practical Considerations on the Bacteriology of the Gastro-intestinal Tract. J. P. Simonds, Indianapolis.

32. Abstracted in THE JOURNAL, Oct. 16, 1909, p. 1318.

Archives of Internal Medicine, Chicago

June

38 *Inflammation. E. L. Opie, New York.
39 *Hemoglobin of Colored Laborers in Panama. W. V. Brem and A. H. Zeiler, Christobal, Canal Zone, Panama.
40 *Paroxysmal Hemoglobinuria. C. H. Neilson, St. Louis, and O. P. Terry, Lafayette, Ind.
41 *Adams-Stokes' Syndrome, with Complete Heart-block, Without Destruction of the Bundle of His. E. B. Krumbhaar, Philadelphia.
42 *Bone Metabolism, Especially the Pathologic Process, Etiology and Treatment of Osteomalacia. F. H. McCrudden, Boston.
43 *The Symptom-Complex of Acute Posterior Poliomyelitis of the Geniculate, Auditory, Glossopharyngeal and Pneumogastric Ganglia. J. R. Hunt, New York.

38. **Inflammation.**—Inflammation, says Opie, is a process which tends to render harmless an injurious substance; it has its site in the interstitial tissue of the body. This tissue consists of fixed cells and fibrillated substances and is penetrated by closed lymphatic vessels. With inflammation certain cells migrate through the wall of the blood-vessels of the part and enter the spaces within the interstitial tissue. Some of these cells are destroyed; others penetrate the endothelial membrane which forms the lymphatic capillaries and hence are carried by way of lymphatic vessels to the regional lymphatic nodes.

Bacteria and many other injurious substances are attacked and ingested by polynuclear leucocytes. These leucocytes are, in turn, ingested by large mononuclear cells (macrophages) which quickly appear at the site of inflammation. The origin of these mononuclear cells is still undetermined. Ingestion of polynuclear leucocytes and other cellular material is begun at the site of inflammation and completed in the regional lymphatic nodes.

The ability of phagocytic cells to remove injurious material is dependent on the possession of proteolytic enzymes. Peculiar to the polynuclear leucocytes is an enzyme which, like trypsin, exerts its digestive action in an alkaline medium. The serum of the blood contains an antienzyme which restrains the action of this enzyme should it be set free by disintegration of the leucocytes; the action of the enzyme is thus limited to the locality in which it accomplishes its proper function, namely, within the cell. When enzyme is set free in such quantity that it overbalances the antienzyme of the exuded serum, suppuration occurs, for the purulent exudate has in virtue of its unrestrained enzyme acquired the power to soften and erode the adjacent tissues.

The mononuclear phagocytes which appear in the late stages of acute inflammation, the similar cells which appear in the regional lymph-nodes, and the cells of similar structure which constitute the greater part of tuberculous tissue contain an enzyme which, like pepsin, digests in the presence of acid. Such phagocytes are active at the site of inflammation, but their work is completed in the regional lymphatic nodes. Inflammation is the process by means of which cells and serum accumulate about an injurious substance and tend to remove or destroy it. This process does not include the regenerative changes which replace injured tissue by newly formed parenchymatous elements or by new interstitial tissue.

39. **Hemoglobin of Colored Laborers in Panama.**—Brem and Zeiler found that the average hemoglobin of healthy colored men of the tropics is about 83 to 85 per cent. The average hemoglobin of Barbadian and Jamaican laborers was 72.7 and 73.7 per cent., respectively; that of Martiniquans 55.2 per cent. Of 277 patients, 234, or 84.5 per cent., had malarial fever; 15.5 per cent. had pneumonia, typhoid, dysentery, liver abscess, tuberculosis, nephritis, etc. Uncinariasis was found in 36.1 per cent.; amebiasis in 24.5 per cent. The hemoglobin curve of malarial patients varies inversely with the number of previous attacks of malarial fever until a relative immunity or tolerance for the malarial poison is developed, when a rise of hemoglobin occurs. This rise does not take place in patients infected with uncinaria. Uncinariasis complicating malaria in colored men causes a reduction of hemoglobin, which averages 6 per cent. less than that of uncomplicated malarial infections. The complication causes more than double the proportion of anemic cases. Amebiasis without dysentery does not appreciably affect the hemoglobin curve. Conditions of life on the Isthmus of Panama do not in themselves affect the hemoglobin of colored laborers. Blood destruction is a question of infection only.

40. **Paroxysmal Hemoglobinuria.**—In the case presented by Neilson and Terry any severe chilling of the patient's skin caused a temporary hemoglobinuria, drowsiness, regurgitation of food and other minor symptoms to be mentioned later. The phenomena were produced either by a chilling of the general body surface or, what was more common, by the mere exposure of the hands and face to cold, damp winds, or by the wetting of the feet in cold weather. The phenomena were produced experimentally in the laboratory by dipping the patient's feet in water reduced to a temperature of 9 to 12 C., even when the general room temperature was 27 C. The object of the experiments was to determine the inhibitory effect of calcium chlorid on the hemolysis of red blood corpuscles by the patient's serum. While the authors do not state definitely that calcium chlorid when administered by the mouth does prevent this hemoglobinuria by foot-baths, they claim that in view of the inhibitory effect on hemolysis in the test tube they feel justified in concluding that if sufficient calcium chlorid could be introduced into the blood, and retained, no hemoglobinuria would occur.

41. **Adams-Stokes Syndrome.**—A careful study of a patient for 5 years and subsequent examination of the tissues concerned, convinced Krumbhaar that Adams-Stokes' syndrome and complete heart-block can exist uninterruptedly for years with little or no lesion of the bundle of His. Whether in such cases there is a structural lesion or whether the difficulty is purely functional, has not yet been determined; but it is probable, says Krumbhaar, that there may in some cases be two or more contributing causes, both functional and organic. A possible explanation of the dissociation of auricle and ventricle in the present case may be that following a fibrosis of the sinoauricular bundle of Keith, the two chambers beat with independent rhythm rather than that the impulse was not properly conducted to the ventricle.

42. **Bone Metabolism and Osteomalacia.**—The treatment of osteomalacia, according to McCrudden, depends on the individual case. He regards it as probably useless to resort to castration in a condition of non-puerperal osteomalacia or a very severe case of puerperal osteomalacia, and, in mild cases of puerperal osteomalacia, it is usually needless to resort to this operation. Good hygienic conditions should be relied on to improve a mild case and the patient should be advised concerning the dangers of rapidly occurring pregnancies. The recent results in bringing about artificial menopause by the x-rays leads him to suggest that this treatment might be tried instead of the more severe operation in a case in which sterilization seemed advisable.

43. **Herpes Zoster of the Cephalic Extremity.**—Hunt believes that we are justified in isolating a large and varied group of cases, characterized by herpes zoster of the cephalic extremity associated with facial palsy, auditory, glossopharyngeal and pneumogastric symptoms, and in regarding them as constituting a well-defined clinical picture. A number of syndromes are thus united in a symptom-complex, having a common etiology and pathology. He is convinced that cases belonging to this group are of much more frequent occurrence than might be inferred from the study of the literature. The reasons for which are to be found in the smallness and inaccessibility of the eruptive areas, making their detection difficult; or all traces of the eruption may have disappeared before the case comes under observation, when a retrospective diagnosis might be difficult or impossible.

It also seems probable, that some cases which are interpreted as rheumatic palsies of the face, palate and even the larynx, may belong to this group; as well as toxic unilateral palsies of obscure origin.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

May

44 Pathology and Diagnosis of Psychoneurosis. B. Sidis, Portsmouth.
45 Microscopic Crystallization and its Application to Chemistry and Therapeutics. H. J. Novack, Philadelphia.
46 Modern Views on Irregular Heart-beat (concluded). H. Sewell, Denver.
47 General Considerations Regarding the More Common Operations on the Nose and Throat. B. F. Walters, Philadelphia.
48 Can We Estimate the Disability of the Deaf? B. A. Randall, Philadelphia.

Journal of Cutaneous Diseases, New York

June

49 The Study of Elastic Tissue in Epidermolysis Bullosa. M. F. Engman and W. H. Mook, St. Louis.
50 *Meralgia Paresthetica. S. Sherwell, Brooklyn.
51 Syphilis. J. Grindon, St. Louis.

50. **Meralgia Paresthetica.**—For about the last ten years of Sherwell's life, in the outer and lower two-thirds of his left thigh, after strenuous and long-continued exertion, as walking, riding and cycling, there has occurred in the region supplied by the external femoral cutaneous nerve, symptoms which he describes as follows: This region becomes the seat of a variety of perverted sensations, such as tingling, tenseness, or still more acute superficial tearing and darting pain, with numbing of sensation from the femoral exit of the nerve to a point just above the patella; this may be only a dull ache, but is usually more acute. It may begin as a glowing sensation also; the rest of the limb with its cutaneous envelope appears to be entirely normal; these symptoms soon subside on resting—sitting, or, better, lying down, but can be brought on readily by resumption of exertion. The painful sensations are like nothing so much as those of zoster, and it is Sherwell's belief that they are caused by the same mechanical means, viz., pressure on the nerve in its continuity, though probably not from the exudation pressure which occurs in zoster.

Sherwell is a healthy man over 60; so far as he knows he is physically sound and takes pleasure in protracted, and it may well be, extreme exercise of all kinds; the affection seems to be diminishing in intensity; for the last two years it has certainly not been so acute or prolonged. Sherwell has not changed his habits of exercise in the least. He frequently walks 5 miles, or even nearly double that distance, rather than use cars.

His conclusions as to the etiology of this condition are, in brief, these: that the condition comes from a constriction, or pinching, as it were, of the nerve as it passes through the tough fasciæ of a muscular individual; that that and the consequent irritation resulting therefrom, and possibly a transient exudation at the site of the constriction as well, between the sheath and nerve substance proper, causes all the symptoms; a temporary non-essential zoster as it were. The only aiding cause on which he lays any weight is a rheumatic tendency; a condition that may aggravate, as can be rationally concluded. Rest and perhaps slight massage produces rapid, though unfortunately, only temporary relief—not a cure.

Memphis Medical Monthly

May

52 The Army and Navy. G. B. Thornton, Memphis.
53 Intestinal Anastomosis. E. J. Johnson, Yazoo City, Miss.

54 Pus and Crusts in the Nose. W. L. Simpson, Memphis.
55 Hemorrhoids: Local and General Anesthesia: Selection of Methods and Anesthetics. J. L. Jelks, Memphis.
56 Ankylostomiasis, or Uncinariasis. W. T. Pride, Memphis.
57 Imperforate Anus. F. M. Malone, Capleville, Tenn.

Western Medical Review, Omaha

May

58 Some Uses of Thyroid. E. W. Demaree, Roca, Neb.
59 A Few Thoughts on Insanity and Eugenics. J. O. Hoffman, Orleans, Neb.
60 The Influence of the Sphenoidal and Ethmoidal Cells in Diseases of the Eye. J. M. Patton, Omaha, Neb.
61 Syphilis of the Liver: Report of Two Cases Simulating Gallstones. M. J. Ford, Omaha.
62 Eclampsia Infantum. E. E. Cone, Oxford, Neb.

St. Louis Medical Review

May

63 *Carcinoma of the Penis. W. E. Leighton, St. Louis.
64 The Practical Importance of the Wassermann Reaction. J. W. Marchildon, St. Louis.
65 Scheherazade's Doctors. S. H. Brown.

63. **Carcinoma of the Penis.**—Of the 13 cases reported by Leighton, 7 came to operation; 1 patient was treated by simple amputation; another by amputation at the pubes with removal of the inguinal glands. The remaining five cases were so badly involved that no choice was left to the operator and a complete extirpation of the genitals with a dissection of the groin was made. Of these, one patient, far advanced, died on the fourth day from a pneumonia; another recovered and left the hospital, but a few weeks later suddenly dropped dead; autopsy by the coroner revealed no cause for the death. Another patient operated on four years ago is well and free from symptoms. The remaining two patients are well two years and one year, respectively, after operation.

Northwest Medicine, Seattle

May

66 The Theory of Immunity. F. Hinman, Spokane, Wash.
67 Truss or Operation in Hernia. W. F. Amos, Portland.
68 Acute Angulations and Flexures of the Sigmoid as a Cause of Constipation. W. H. Axtell, Bellingham.
69 Identity of the Criminal Established from Examination of Fatal Bullet. H. Power, Spokane, Wash.
70 Prognosis in Surgery. J. D. Sternberg, Portland, Ore.
71 Treatment of Corneal Ulcers by Suction Hyperemia. C. T. Cooke, Seattle.
72 Tuberculin in the Treatment of Tuberculosis. C. S. Wilson, Tacoma.
73 Pyelitis in Infants. J. B. Manning, Seattle.
74 The Preparation of Macroscopic Specimens in Glycerin Jelly. H. V. Wurdemann, Seattle.

Archives of Diagnosis, New York

April

75 The Study of Tuberculosis. W. Porter, St. Louis.
76 Etiology and Diagnosis of Arteriosclerosis. F. E. Sondern, New York.
77 Significance of Abdominal Pain in Infants and Children. L. Kerr, Brooklyn.
78 Differential Diagnosis of the Spasmodic Respiratory Affections in Early Life. G. R. Pisek, New York.
79 Rectal Palpation in the Diagnosis of Acute Intra-abdominal Disease. G. E. Dickinson, Jersey City, N. J.
80 Diagnosis of Fibrosis Uteri. S. W. Bandler, New York.
81 Prognosis in Tabes Dorsalis. T. A. Williams, Washington, D. C.
82 Multiple Malformations of the Central Nervous System (Porencephaly, Diplomyelia, etc.): Their Interpretation from a Clinical Standpoint. A. Gordon, Philadelphia.
83 Diagnosis of Primary Malignant Disease of the Choroid and the Retina. J. H. Woodward, New York.
84 Diagnostic Errors in Abdominal Surgery. J. H. Carstens, Detroit.
85 Lupus Vulgaris Mistaken for and Treated as Syphilis. G. M. MacKee, New York.
86 Adiposis Dolorosa. J. A. Booth, New York.
87 Total Ophthalmoplegia and Bilateral Facial Palsy. A. E. Eshner, Philadelphia.

Wisconsin Medical Journal, Milwaukee

May

88 Diagnosis and Treatment of Complications of Otitis Media [illegible] ter, Milwaukee.
89 [illegible] Disease. H. B. Hitz, Milwaukee.
90 [illegible] in 30 Patients Treated at the Blue Mound Sanatorium. C. H. Stoddard, Milwaukee.
91 Tetany. A. L. Kastner, Milwaukee.
92 The Nourishment of Patients During Prolonged Illnesses. L. F. Ruschhaupt, Milwaukee.

June

93 *The Importance of a Study of Parasitology. B. M. Allen, Madison.
94 The Practice of Surgery. R. Elmergreen, Milwaukee.
95 The Need of Physical Exercise in the Treatment of Tuberculosis. W. Fletcher, Salem.
96 The Medical Experiences of Benvenuto Cellini. A. W. Myers, Milwaukee.

93. **Importance of Parasitology.**—The subject of parasitology is one of great importance to medicine. A scientific knowledge of the structure, life history and habits of the parasites is of much value to the practitioner. Allen says that they consider this subject of such importance in Wisconsin that they are now giving at the university a course in medical zoölogy which deals primarily with the structure, reproduction and life history of parasites infesting man. It also deals with disease carriers, such as mosquitoes, flies and rats, and finally with venomous insects and reptiles.

Cleveland Medical Journal

June

97 Reactions of the Vasomotor Center. T. Sollmann and J. D. Pilcher, Cleveland.
98 Poisoning by Carbon Monoxid. M. Friedrich, Cleveland.
99 Tuberculin in the Diagnosis and Treatment of Surgical Tuberculosis. W. G. Stern, Cleveland.
100 Routine Otoscopy in the Febrile Affections of Infancy and Early Childhood. A. S. Maschke, Cleveland.
101 *Abdominal Section for the Removal of a Gauze Sponge which had Been Left in the Abdominal Cavity for Nine Months. H. Robb, Cleveland.
102 Foreign Body in the Larynx. S. H. Monson, Cleveland.
103 The Coagulation Time of the Blood in Phlegmasia Alba Dolens and its Treatment. P. A. Jacobs, Cleveland.
104 Spinal Anesthesia. M. E. Blahd, Cleveland.
105 What is Orthopedic Surgery? H. O. Feiss, Cleveland.
106 Cervical Rib with Operation. C. A. Hamann, Cleveland.

101. **Removal of Gauze Sponge from Abdominal Cavity.**—The patient whose case is reported by Robb, complained of dysmenorrhea, menorrhagia and dragging pains in the lower abdomen, with frequent and burning micturition. On bimanual examination an adherent uterus could be made out posteriorly in the pelvis. Both Fallopian tubes and ovaries were enlarged and adherent. An abdominal section was performed. The adherent tubes and ovaries were removed after separation of a considerable number of intestinal and omental adhesions. Both tubes contained pus. During removal of the right tube and ovary the tube ruptured, allowing several drams of a purulent fluid to escape into the pelvic cavity. The pus was caught on a sponge and a couple of narrow gauze sponges were packed about the seat of the ruptured tube. The abdominal cavity was closed without drainage. There was a slight elevation of temperature for two days following the operation. Aside from this, however, the convalescence was uninterrupted. Twenty days after the section the cervix and perineum were repaired. Six weeks after the laparotomy the patient was discharged feeling well in every way.

In February, 1909, a little more than nine months from the time of operation, she was again admitted to the hospital complaining of some distress in the left lower quadrant of the abdomen. On bimanual examination a fluctuant movable mass, about the size of a closed fist, could be made out. Three days later the abdominal cavity was reopened through the line of the previous operation. The mass was found beneath the brim of the pelvis lying to the left of the median line, enveloped in a connective-tissue-like sac, and surrounded by the sigmoid flexure, the omentum, and several coils of the small intestines. During an attempt to separate the intestines from the mass the sac ruptured and a small quantity of purulent looking fluid escaped. At the mouth of the opening in the sac there appeared a whitish substance which proved to be a gauze sponge in a perfect state of preservation.

Old Dominion Medical Monthly, Richmond

May

107 Chorea and Choreiform Movements. C. W. Burr, Philadelphia.
108 Dementia Præcox: Some Neglected Phases. J. K. Hall, Morgantown, N. C.
109 Acute Unilateral Septic Infarct of the Kidney. C. R. Robins, Richmond.
110 Experiences with Placenta Prævia. J. H. Hiden, Pungoteague, Va.
111 Surgery of Infantile Life. S. McGuire, Richmond.
112 The Diagnosis of Typhoid in Children. W. L. Harris, Norfolk, Va.
113 The Uses of Radium in Medicine and Surgery. G. W. Drake, Hollins, Va.

Archives of Ophthalmology, New York

May

114 The Best Methods for the Diagnosis and Treatment of Ocular Tuberculosis. G. S. Derby, Boston.
115 A Stigmometric Card Test for Illiterates. P. Friedenberg, New York.

116 Etiology of Scleritis, Its Treatment and Results with Tuberculin. E. Török, New York.
117 Mydriatics and Miotics in Injuries of the Lens and Following Discission, to Hasten Dissolution and Absorption of the Lens Substance, and to Clear the Pupil Area of Fragments of Opaque Capsule. H. W. Wandless, New York.
118 Crescentic Ulceration of the Cornea, with Comments on the Value of Peroxid of Hydrogen in Their Treatment. J. Dunn, Richmond, Va.

Iowa Medical Journal, Des Moines

May

119 Hygiene and State Medicine. M. L. Turner, Des Moines.
120 Quacks and Nostrums. S. Bailey, Mt. Ayr.
121 *The Movement Against Tuberculosis. J. W. Kime, Fort Dodge.
122 *The Value of Tuberculin in the Treatment of Tuberculosis. F. Albert, Mason City.
123 *Early Diagnosis in Tuberculosis. R. E. Conniff, Sioux City.
124 *The Pathology of Tuberculosis. E. W. Meis, Sioux City.
125 Preventable Blindness in the State of Iowa. H. B. Gratiot, Dubuque.
126 *Fallacies in Preventive Medicine. B. L. Eiker, Leon.
127 Clinical Diagnosis. T. R. Jackson, Albia.

June

128 Abdominal Contusions. L. W. Littig, Iowa City.
129 Tumors of the Female Breast. M. Emmert, Atlantic.
130 The Orthopedic Treatment of Infantile and Cerebral Paralysis. A. Steindler, Des Moines.
131 Blood-Pressure Determinations in Life Insurance Examinations. F. Albert, Mason City.
132 Direct Laryngoscopy: Upper and Lower Bronchoscopy: Esophagoscopy. L. W. Dean, Iowa City.
133 Anatomy of the Tonsil. H. J. H. Hoeve, Des Moines.
134 *A Traumatic Cataract Operation. W. S. Windle, Oskaloosa.
135 The Upper and Lower Motor Neurons in Health and Disease. T. B. Throckmorton, Charlton.
136 Cathartics in Surgical Cases. L. Schooler, Des Moines.

121, 122, 123, 124, 126. Abstracted in The Journal, July 17, 1910, pp. 229, 230.

134. **A Traumatic Cataract Operation.**—This case proved to be a traumatic extraction of a cataract in capsule, followed by results comparable to those of the Major Smith operation. At the age of 24, the patient received an injury to his right eye from a piece of steel which reduced its vision to 6/200, his left eye, however, remained normal. Three years ago, at the age of 67, while laboring on his farm, he stooped to clean his plow and bumped his left eye against a projecting iron bar. He immediately covered the wounded eye with his handkerchief and sought relief, arriving at Windle's office within half an hour after the accident. On separating the eyelids in the process of examination, a large fragment of the lens was found lodged in the cul-de-sac. A slightly irregular linear wound was observed in the upper, outer portion of the cornea near the limbus, about 8 mm. in length. No lens débris could be discovered remaining in the eye. The corneal chamber was not entirely collapsed. A large fragment of the upper, outer portion of the iris had been torn away, forming a large coloboma; no incarceration of the iris, however, had occurred. Examination by the ophthalmoscope later on revealed clear media, excepting a small fragment of lens-capsule remaining at its lower attachment. Windle claims that this case of traumatic expression of the lens in capsule is a silent yet forcible argument in favor of the Major Smith operation.

Journal Tennessee State Medical Association, Nashville

May

137 *The Higher Mission of the Doctor. J. L. Crook, Jackson.

137. Abstracted in The Journal, April 3, 1910, p. 1466.

Kansas City Medical Index-Lancet

May

138 The Medical Aspect of Mental Healing. J. Punton, Kansas City.
139 Social Responsibility in Hospital Service. W. T. Cross, Columbia, Mo.
140 Presentation of a Case of Localized Meningitis. F. G. Neff, Kansas City.
141 Differential Points in the Character of the Bone Lesion in Tuberculous and Acute Osteomyelitis, Rachitis and Syphilis. A. E. Horwitz, St. Louis.
142 State Care of Epileptics. M. L. Perry, Parsons, Kan.

Therapeutic Gazette, Detroit

June

143 The Value of Thyroid Extract in Aural Manifestations of Myxedema. S. M. Smith, Philadelphia.
144 Bacterial Vaccines. E. C. L. Miller, Detroit.
145 The Ratio of Blood-Pressure to Pulse-Rate in Croupous Pneumonia from a Diagnostic and Therapeutic Standpoint. H. A. Hare, Philadelphia.
146 *Treatment of Bone Tuberculosis. H. A. Wilson.

146. **Bone Tuberculosis.**—The method that has been resorted to in the Jefferson Hospital out-patient orthopedic department has been fixation to enable weight-bearing by the employment of the plaster-of-Paris bandage; it has the advantage of accurate fit and adaptation to the parts, it cannot be removed by the patient, it is capable of readjustment by replacement, and possesses all of the advantages and none of the disadvantages of similar appliances, whether made of steel or other material. Each individual joint has its peculiar condition requiring adaptation of fixation appliances.

Detroit Medical Journal

May

147 The Treatment of Lobar Pneumonia. C. F. Kuhn, Detroit.
148 Myelogenous Leukemia. C. E. Simpson, Detroit.
149 Random Medical Notes in Europe. G. Dock, New Orleans.
150 Radiography of Fractures. G. C. Chene, Detroit.
151 Need of Anti-tuberculosis Movements. E. B. Pierce, Howell, Mich.

American Journal of Urology, New York

May

152 Suprapubic or Perineal Prostatectomy—Which? F. Kreissl, Chicago.
153 Transplantation of Right Ureter into Appendix. G. L. Eaton, San Francisco.
154 The Treatment of Malignant Disease of the Prostate Gland. J. B. Bissell, New York.
155 Treatment of Malignant Disease of the Bladder. R. H. Greene, New York.
156 Treating Gonorrhea by a New Method. J. B. McNerthney, Tacoma, Washington.

Alabama Medical Journal, Birmingham

May

157 Nutrition in Early Life. F. S. Meara, New York.
158 Medical Association, State of Alabama. W. M. Wilkerson, Montgomery.

Journal Ophthalmology and Oto-Laryngology, Chicago

May

159 Labyrinthine Nystagmus. J. S. DeMuth, Pittsburg, Pa.
160 Trachoma. C. B. Wylie, Chattanooga, Tenn.

Atlanta Journal-Record of Medicine

May

161 Diphtheria and its Relation to the Laboratory. K. R. Collins, Atlanta.
162 Tenotomy. T. Toepel, Atlanta.
163 Acute Infantilism. H. McH. Hull, Atlanta.
164 Hydrophobia, its Prevalence and Prevention. H. R. Slack, Lagrange, Ga.
165 Radium: Its Use in Some Cases. T. E. Oertel, Augusta.
166 Value of Gonococcic Vaccine in the Treatment of Gonorrheal Arthritis. W. L. Champion, Atlanta.
167 Penetrating Wounds of the Chest and Abdomen. C. C. Abell, Texarkana, Tex.
168 An Unusual Case of Pneumonia. J. E. Sommerfield, Atlanta.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet London

June 11

1 The Operative Treatment for P [illegible] Renal Changes in Hydronephrosis [illegible] Morris.
2 The Physiology of the Human [illegible]
3 Ear Ornaments of the Masai [illegible] yn. J. Bland-Sutton.
4 Spinal Anesthesia in Infants and Children. H. T. Gray.
5 Papilloma Causing Hydronephrosis in a Horse-Shoe Kidney. J. Morley.
6 Rat-Bite Fever. G. S. Middleton.
7 *Interesting Case of Triplets. G. Aldridge.

7. **Interesting Case of Triplets.**—On examining a primipara aged 28, Aldridge found presenting outside the vulva the foot and leg of a fetus. This he was able to deliver quickly and easily, and found it to be a male mummified fetus of about 6 months' development. On further examination he felt a bag of membranes bulging at the os uteri and the head of a child presenting. The os being fully dilated, Aldridge ruptured the membranes and in about an hour delivered the patient of a living female child of about 8½ months' development. He then placed his hand on the abdomen to express the placenta, and after waiting some time with no result he again examined

the patient. The uterus had contracted firmly, but he could feel through the os the foot of another fetus protruding. This was gripped by the contracted uterus, and the patient, although uneasy, was having no pain. After waiting an hour he examined again and found the os uteri dilating and the leg as well as the foot of a fetus presenting. Gentle traction seemed to bring on pains, and in about 20 minutes he had delivered the woman of another fetus (male, mummified) of about four months' development. The placentæ were removed with difficulty. The two male fetuses were attached to one placenta, while the living child had a separate one. This was apparently a case of two ova, one of them double.

British Medical Journal, London

June 11

8 Pernicious Anemia Having Changes in the Spinal Cord. W. H. White.
9 Subacute Combined Degeneration of the Spinal Cord, Simulating Disseminated Sclerosis. B. Bramwell.
10 The Darran Explosion from a Medical Standpoint. T. L. Llewellyn.
12 *Circular or End-to-End Suturing of Arteries. E. A. Smith.
13 The Mechanical Effects of a Massive Right-sided Pleural Effusion. A. C. Geddes.

12. **End-to-End Suturing of Arteries.**—The method of end-to-end suture of arteries described by Smith is an evolution of the method set forth in his recent book on blood-vessel surgery. The suture material used is silk, for a vessel as large as the human femoral artery, No. 0000; for one the size of the radial about half that thickness. In addition, some fine chromicized catgut, No. 1 or No. 2, according to the size of the vessel, is required. The silk is used from the reel, and it is essential to thread the needle from the convexity of its curve toward the concavity. The catgut should for convenience be in straight lengths, that is, never have been wound on a reel. Smith uses an apparatus for sterilizing silk or catgut by superheated alcohol vapor. The suture method is an adaptation of the quill suture, the quill being represented by the chromic gut. The desideratum is to bring two endothelial surfaces together, yet to have a suture that penetrates every coat of the vessel, but causes a minimum of bare suture material to impinge on the lumen. The method is described fully by the author.

Clinical Journal, London

May 18

14 Tuberculous Disease. F. C. Wallis.
15 Asthma. H. B. Shaw.
16 Pituitary Extract and Some of Its Effects. L. Williams.

Medical Press and Circular, London

May 18

17 Epileptic Manifestations in Childhood. O. Moon.
18 *Tuberous Sclerosis. J. S. Fowler and W. E. C. Dickson.
19 The Ninetieth Birthday of Miss Florence Nightingale. E. S. McKee.
20 The Use of Balsams in the Treatment of Cystitis and Gonorrhea. H. I. Berger.

18. **Tuberous Sclerosis.**—Tuberous sclerosis is a rare developmental disease, interesting pathologically, because of the peculiar association of a characteristic nodular sclerosis of the cerebral cortex, and tumors of the kidney, heart, skin and other tissues. The case Fowler and Dickson record was an infant, aged 1 year, who had apparently developed in a normal fashion. It was suddenly seized with convulsions, lasting for several hours. It was in a semicomatose condition, with slight convulsive movement of the face. Lumbar puncture showed that the cerebrospinal fluid contained 40 lymphocytes per cm. Otherwise the examination was negative. The child remained in an apathetic condition for three weeks without the supervention of any further symptoms, and the cells disappeared from the cerebrospinal fluid. She then developed an empyema, which proved fatal. During the whole of the child's illness her appearance was indicative of cerebral mischief, but the symptoms, though at first suggestive of tuberculous meningitis, were too indefinite to admit of any diagnosis being arrived at.

On post-mortem examination the brain showed numerous hard nodules, mostly in the cerebral cortex, the arrangement of the convolutions of which was not appreciably disturbed, nor was the pia arachnoid adherent over them. These nodules, a dozen or more on each hemisphere, and varying from the size of a pea to that of a small walnut, consisted of neuroglial overgrowth, with corresponding diminution of the nerve elements proper. The surviving nerve cells were increased in size and showed all stages of degeneration and disintegration. Numerous smaller nodules projected into the lateral ventricles. In the right auricular appendix of the heart there were two small nodules of rhadomyoma, the histologic appearances of which corresponded to the classical descriptions of this very rare tumor. No lesions of special importance, apart from empyema, were found in any of the other organs.

Journal Tropical Medicine and Hygiene, London

May 2

21 *Observations on Malaria. G. A. Wolfendale.
22 The Etiology of Zymotic Enteritis. (Epidemic Diarrhea). R. Vincent.

21. **Malaria.**—To prevent mosquitoes from biting, Wolfendale (who lays claim to be one of the first to suggest seriously the mosquito theory of infection) found a phenol lotion, 1 in 60 or 1 in 40, also ol. eucalyptol ʒi to glycerin or olive oil ℥ii, useful applications.

Glasgow Medical Journal

May

23 The Effects of Moderate Doses of Alcohol. W. L. Reid.
24 Symmetric Keratodermia of the Extremities. J. G. Gray.
25 Aplastic Anemia. J. Carslaw and J. S. Dunn.

June

26 Color Perception and Other Visual Functions in Their Practical Aspects. F. Fergus.
27 Myxosarcoma of Upper End of Tibia—Osteomyelitis of Lower End of Tibia. J. G. Andrew.
28 *Epilepsy in Some of Its Gynecologic Aspects. W. J. Rutherfurd.

28. **Epilepsy.**—When between 15 and 16 years of age, Rutherfurd's patient began to menstruate for the first time. For three or four years previous to this she had had a fit at fairly regular four-weekly intervals, without the occurrence at any of these times of any menstrual flow. She had never had fits of any sort before the age of about 12 years, but has had them with regularity ever since. These fits were preceded by a cry and were accompanied by loss of consciousness and biting of the tongue, but never to her knowledge had she lost control of the rectal or vesical sphincter. In such a fit she occasionally fell heavily and sustained injury. At present, unless when held in check by appropriate medicinal measures, the fit occurs with regularity every month about a week before the onset of the menstrual flow, and with the one fit the tendency exhausts itself and does not reassert its presence until a full lunar month has elapsed. For a year or two, however, she had a series of single intermenstrual fits occurring exactly midway between the two periods; this was only at the onset of menstrual life, and she has not exhibited the phenomenon since.

She has now had four children, and always during the amenorrhea of pregnancy and of lactation she has found herself free from the fits, which recurred again and presented all their usual phenomena on her weaning the child. Menstruation has always been regular and absolutely free from pain, and particular inquiry failed to reveal any story of pelvic pain or of blood-stained discharge occurring at the middle of an intermenstrual period at any time in her life. Rutherfurd holds that such cases as these teach us that our conception of what does and what does not constitute *Mittelschmerz* must undergo considerable modification. In this case there was no pain, and apparently no discharge at the mid-interval periods, but their place was taken over a considerable time by recurring explosions of nervous energy of the nature of true epilepsy. The sequence of events as evolved in subsequent years proclaimed the real dependence of such manifestations on the cyclical pelvic changes, and established their claim to be regarded as a form of *dysmenorrhea sine dolore* of the intermenstrual type.

Annales de Gynécologie et d'Obstétrique, Paris

May, XXXVII, No. 5, pp. 257-320

29 *Ligamentopexy in Treatment of Retroversion of the Uterus. (Dénudation des ligaments ronds dans le traitement des rétroversions utérines.) L. Chevrier.
30 Tubal Pregnancy Compelling Hysterectomy. (Grossesses tubaires faisant corps avec la corne utérine et nécessitant l'hystérectomie.) A. Couvelaire and J. Mouchotte.

31 Thrombosis Following Injection of Collargol. (Thrombus vulvo-vaginal survenu au troisième jour des couches peu après une injection intra-veineuse de collargol.) M. Potocki.
32 *Prefetal Dilatation of Vagina in Breech Presentation. C. Sauvage.

29. **Treatment of Retroversion of the Uterus.**—Chevrier prefers the modified Doléris technic for ligamentopexy and gives ten illustrations of the method, especially of the way in which the finger wrapped in gauze stretches the lips of the incision in the peritoneum, permitting the round ligament to be drawn through and the loop sutured after what he calls median reinforcement.

32. **Stretching the Vagina in Advance of the Fetus with Breech Presentation.**—Sauvage stretches the vagina with the Champetier de Ribes bag to facilitate delivery. In 32 cases it enabled spontaneous delivery in all but four instances. When forceps are required, this preliminary dilatation aids materially; done cautiously it does not harm the mother, while the advantage for the child is beyond question. In primiparæ it generally promotes delivery and seems to reduce by 25 per cent. the mortality of the children while they are in a better condition, not having suffered from the traumatism of compression from the soft parts. *He advises it also for shoulder presentation in primiparæ, and in multiparæ if the child is large, and gives the details of 50 cases in which this vaginal prefetal dilatation was applied.*

Annales de l'Institut Pasteur, Paris

April, XXIV, No. 4, pp. 241-336

33 *Experimental Research on Exanthematous Typhus. C. Nicolle.
34 Glossina Palpalis and Trypanosoma Cazalboui in Upper Guinea. G. Bouffard.
35 Acetic Aldehyd Not a Normal Product of Alcoholic Fermentation. Trillat and J. P. Sauton.
36 Yeast Fungi in Connection with Acetic Aldehyd in Alcoholic Fermentation. Trillat and J. P. Sauton.
37 Presence and Utility of Boric Acid in Respect to Vegetable Life. (Bore chez les végétaux.) H. Agulhon.
38 Vaccination Against Anthrax. (Sur la vaccination anticharbonneuse par des bacilles très virulents préalablement mélangés dans le bouillon-culture du bacille pyocyanique.) J. D'Agata.

33. **Experimental Research on Typhus.**—The most important results of the research reported are that it proved possible to reproduce typical exanthematous typhus in monkeys; and that the transmission of the disease by the louse that infests human beings was demonstrated.

Annales de Médecine et de Chirurgie Infantiles, Paris

May 15, XIV, No. 10, pp. 321-352

39 Rare Forms of Congenital Hydrocephalus. V. P. Jankovsky.
40 Physiologic Variations in Composition of Milk. (Les variations physiologiques de la composition du lait.) P. Lassablière. Commenced in No. 7.

Bulletin de l'Académie de Médecine, Paris

May 24, LXXVI, No. 20, pp. 435-444

41 Operative Treatment in Mental Disease. (De la méthode chirurgicale en médecine mentale.) Picqué and E. Schwartz.

May 31, No. 21, pp. 445-496

42 Removal of Bullet Loose in Lumbar Spinal Cavity. T. Tuffier and J. Lucas-Championnière.
43 Epidemic Poliomyelitis in France and Elsewhere. (Apparition sous forme épidémique de la paralysie infantile à Paris et sa banlieue en 1909. Notions fournies par l'étude des épidémies des autres pays et par la pathologie expérimentale). A. Netter.
44 Abortive Local Treatment of Syphilis. H. Hallopeau.

Bulletins de la Société de Pédiatrie, Paris

April, XII, No. 4, pp. 189-244

45 The Acetic-Sublimate Stool Test for Digestive Disturbances. H. Triboulet.
46 Meyer's Phenolphthalein Test in Nephritis. G. Paisseau, L. Tixier, H. Triboulet and C. Périneau.
47 Recovery from and Recurrence of Chorea. H. Triboulet and C. Périneau.
48 *Aggravation of Scoliosis by Exercise. (Les scolioses que la gymnastique aggrave.) M. L. Ombrédanne.
49 Pyloric Spasm in Infants. (Quelques considérations sur le pylorospasme du nourrisson.) H. Dufour.

48. **Form of Scoliosis Aggravated by Exercise.**—Ombrédanne has noticed that when some of the vertebræ have become wedge-shaped so that scoliosis has developed, any attempt to bend the spine forward causes torsion. Scoliosis due merely to muscular insufficiency or deformity of the intervertebral discs, without deformity of the bone, corrects itself as the spine is bent forward, and gymnastic exercise is the most essential factor in treatment. But in scoliosis with wedge-shaped vertebræ, the deformity increases as the spine is bent forward; every such movement aggravates the lesions and deformity and should be strictly forbidden.

Lyon Médical, Lyons

May 8, XLII, No. 19, pp. 989-1029

50 *To Render Dietetic Restrictions Less Onerous. (Gouter sans avaler.) P. Aubert.

May 15, No. 20, pp. 1030-1108

51 Sugars in Infant Feeding. (De l'emploi de lactose et de quelques sucrea autres que le lactose dans l'alimentation courante du nourrisson.) M. Péhu and C. Porcher. Commenced in No. 19.

May 22, No. 21, pp. 1069-1108

52 Ligation of Common Carotid. Desgouttes.
53 Technic for Roentgen Ray Diagnosis of Gall-Stones. (La radiographie appliquée à la recherche des calculs biliaires.) F. Arcelin.

50. **Sham Feeding for Diabetics and Others.**—Aubert has found that diabetics and persons requiring a salt-poor diet are able to enjoy the pleasures of the table by *apparently eating* and chewing the food at will, *but expelling it finally from the* mouth, *not swallowing it. He advises this for a time when* such patients *seem to feel the necessary dietetic restrictions too keenly.*

Presse Médicale, Paris

May 28, XVIII, No. 43, pp. 401-408

54 Modern Diagnostic Methods Applied to a Cancer of the Bronchus and Lung. (Cancer broncho-pulmonaire.) L. Rénon, E. Géraudel and L. Marre.
55 Radiography of the Appendix Vermiformis. (Radiographies de l'appendice ileo-caecal sur le Vivant.) P. Aubourg.

June 1, No. 44, pp. 409-416

56 *Eclampsia and Morphin. J. Rouvier and Laffont.

June 4, No. 45, pp. 417-424

57 Paroxysmal Hemoglobinuria in the Horse Following Chilling. (Hémoglobinurie paroxystique à frigore du cheval.) A. Lucet.
58 *Ptosis of the Cecum. G. Lardennois.
59 Lesions and Pathogenesis of Microcystic Degeneration of the Ovaries. E. Forgue and G. Massabuau.
60 Advantages of Prolonged Anesthesia with Ethyl Chlorid: 75 Cases. M. Boureau.

56. ***Eclampsia and Morphin.**—Rouvier and Laffont state that* recovery was much more rapid and complete in their cases of eclampsia *in which they used morphin, injecting 0.01 gm. at a time, repeated from 3 to 5 times at 3 or 4 hour intervals,* supplemented by inhalation of chloroform and copious rinsing out of the stomach and intestine. They give the details of 2 cases, emphasizing the rapid subsidence of coma and the prompt recovery; with other measures the patients were several days recovering complete consciousness.

58. **Ptosis of the Cecum.**—Lardennois remarks that the disturbances from ptosis of the cecum have frequently been erroneously ascribed to wandering kidney, ovarian cysts, tubo-ovarian varicocele, displacement of the uterus, neuralgia or neuropathies, but once suspected the symptomatology is instructive. The pain, oppression and dragging down sensations are below McBurney's point, and the cecum may be felt as a soft, fluctuating tumor; it gives a relatively dull note on percussion during a painful attack, with gurgling sounds as the attack subsides. He adds that the pathognomonic sign is that when the contents of the ascending and transverse colon are pushed back toward the cecum, this causes pain in the right half of the pelvis, while the pain disappears if the contents of the prolapsed cecum are gently worked along from below upward, toward the colon. Dietetic measures, massage and exercise of the abdominal muscles are the main reliance in treatment for the milder forms, and he is convinced that many cases of supposed chronic appendicitis in which a cure was realized by massage and purgatives were in reality merely cases of ptosis of the cecum.

If in operating on an inflamed appendix the cecum is found much over 4 inches long, he advises fastening the cecum to correct any tendency to ptosis later. This should also be advised if the disturbances persist unmodified by medical measures and massage.

Revue de Chirurgie, Paris

May, XXX, No. 5, pp. 751-966

61 *Primary Sarcoma of the Articular Synovial Membranes. F. Lejars and H. Rubens-Duval.
62 *Fatality During Momburg Belt Constriction. (Mort subite au cours de l'hémostase par le procédé de Momburg.) G. Gross and A. Binet.

63 Traumatic Radicular Paralysis of the Brachial Plexus. Vandenbossche.
64 *Continuous Oxygen Irrigation of the Abdomen in Abdominal Surgery. (Emploi du courant continu d'oxygène en chirurgie abdominale.) T. Weiss and L. Sencert. Commenced in No. 4.
65 Operative Treatment of Cancer of the Testicle. M. Chevassu. Commenced in No. 4.

61. **Primary Sarcoma of the Articular Synovial Membranes.**—The lesion develops very insidiously, it is extremely indolent and does not interfere with the movements of the joint; from 2 to 13 years had elapsed before operative treatment in the 16 cases on record. The results of conservative operations are not encouraging and Lejars deems amputation at once the wiser course or, at least, if the lesion shows signs of recurrence after a primary conservative operation. In the personal case reported and in 13 others the knee was the seat of the growth; in the others the ankle. The patients were between 20 and 40 years old in nearly every case. A history of trauma affecting the joint is mentioned in several instances.

62. **Fatality from Momburg Belt Constriction.**—In the case reported the rubber tubing was wound around the waist to prevent hemorrhage during disarticulation of the hip for a tuberculous process in knee and hip joint which had much debilitated the patient, a woman of 27, during the last two years. No abnormal sounds were heard over the heart. The constriction was applied very gradually and the operation terminated without mishap. The tubing was then unwound and in about a minute the patient collapsed. Autopsy showed the right heart acutely distended. This was favored by unsuspected fatty degeneration of the heart muscle and old mitral and aortic endocarditis. The case teaches the importance of applying and removing the tubing very slowly and cautiously to avoid sudden changes in the condition of the circulation. Willems has reported a case in which blood issued from mouth and nose during the belt constriction; Guinard, a case of blood-stained sputum; Pieri of intestinal hemorrhage; Kempf of gangrene of the thigh, and de Bovis, a fatality possibly due to the constriction.

64. **Continuous Current of Oxygen in Local Treatment of Abdominal Disease.**—The first part of Weiss and Sencert's communication was summarized in The Journal May 28, page 1829. They here give the details of sixteen cases out of a much larger mass of material to show the advantages of continuous irrigation of the interior of the abdomen with a constant flow of oxygen. It has abundantly demonstrated its usefulness, they say, as an aid to drainage, checking or preventing absorption from the abdominal cavity, stimulating peristalsis, especially when combined with proctoclysis, and exerting in general a stimulating action on the cardiovascular apparatus. They urge that it should rank with proctoclysis and lavage of the stomach as a routine measure in prevention and treatment of peritonitis, etc.

Revue de Médecine, Paris

May, XXX, No. 5, pp. 345-448

66 Nature of Osteomalacia. (Ostéopathie myélogène.) L. Bernard.
67 Mediastinal Pleurisy. I. E. Devic and P. Savy.
68 Epidemiologic Study of Acute Poliomyelitis. E. Job and J. Froment.
69 Inherited Syphilis and the Wassermann Reaction. I. Bertin and Gayet.

Berliner klinische Wochenschrift, Berlin

May 23, XLVII, No. 21, pp. 957-1000

70 *General Anesthesia by Means of Meltzer's Continuous Intratracheal Insufflation. C. A. Elsberg and H. Lilienthal.
71 *Modification of Technic for S. J. Meltzer's Method of Intratracheal Insufflation for General Anesthesia. E. Unger and M. Bettmann.
72 Three Cases of Congenital Inherited Paralysis of the Ocular Muscles. (Zur Kenntnis der angeborenen hereditären Augenmuskellähmungen.) H. Gebb and H. v. Voss.
73 Two Cases of Primary Gastric Sarcoma. W. Maschke.
74 Further Experiences with Intramuscular Injections of Menthol-Eucalyptol in Bronchial and Pulmonary Disease. M. Berliner.
75 Congenital [illegible] ions. (Morbus coeruleus bei [illegible] nkel.
76 Quantita[illegible] ting Body in the Wassermann [illegible] Hemmungskörper[illegible] mung bei der Wassermann'sc[illegible]
77 Experimental Research on the Action of Roentgen Rays on Young Cells. (Wirkung kleinerer und grösserer [illegible] strahlenmengen auf junge Zellen.) H. [illegible]
78 Partial Submucous Pyloroplastics. (Zur [illegible] Pyloroplastik.) W. Kausch.
79 Balneotherapy in Urinary Disease. Wasserthal.

70-71. **General Anesthesia by Intratracheal Insufflation.**—Unger and Bettmann have modified the Meltzer technic for respiration by intratracheal insufflation, the main feature of which is the use of a two-way tube carried down into the trachea to the bifurcation of the bronchi. This ensures constant evacuation of the used air (even without respiratory movements) which is the chief point of superiority of this over other technics for artificial respiration and for inducing differential pressure in the lungs in thoracic surgery. Instead of the apparatus devised by Elsberg for the purpose, they use an ordinary oxygen tank connected by a T-tube with a Wolff flask containing a little ether, the flow of the mixed ether and oxygen being controlled by a valve. Their experiments with it have been encouraging. Elsberg reports two clinical cases in which the method with his apparatus was successfully applied in operative treatment of an abscess in the lung or pleura.

Centralblatt für die Grenzgebiete der Med. und. Chir., Jena

May 19, XIII, No. 8, pp. 289-320

80 *Liver Abscess During or Consecutive to Typhoid. (Ueber Leberabscesse im Verlaufe und Gefolge des Typhus abdominalis.) E. Melchior. Commenced in No. 5.

80. **Abscess in the Liver in the Course of or Consecutive to Typhoid.**—Melchior critically reviews 94 articles that have appeared on this subject and tabulates the details of 25 cases of solitary abscess in the liver of typhoid origin. The prognosis is unfavorable when the abscess develops from spread of a typhoid cholecystitis or thrombophlebitis. The clinical picture of typhoid appendicitis resembles that of typhoid perforation of the bowel. In 5 cases the typhoid appendicitis was responsible for development of a pylephlebitic liver abscess, all fatal. Appendicitis complicating typhoid should be treated as under other circumstances; after the abscess in the liver has developed it is too late for an operation, as likewise when the abscess is of pyemic origin. With a solitary abscess, prompt operative treatment with ample outlet for the pus is showing constantly better results as the technic is being perfected. In the 12 operative cases all but 2 of the patients recovered, while only 2 recovered out of 9 patients under medical measures alone. Pneumonia in the superior lobe was observed as a complication in one case and severe diarrhea in another, but both patients recovered. The clinical picture of typhoid solitary abscess in the liver opens with high fever and pain in the liver region about two weeks after defervescence in a mild or moderate typhoid, generally in a male patient. In some cases there is a chill; jaundice is still rarer. The liver visibly increases in size and is usually tender. Contrary to what is observed with a pleural effusion, the excursions of the lower margin of the lung are not restricted. Typhoid cholecystitis generally comes on during the febrile phase of the typhoid and it is accompanied by symptoms of circumscribed irritation of the peritoneum, especially rigidity of the muscles over the gall-bladder region. Exploratory puncture may be necessary; no harm resulted in the 8 cases in which it was done. The possibility of an abscess in the liver should be borne in mind when there is a history of a stay in tropical regions. Jaundice, especially when intense, speaks against a solitary abscess, but when the liver symptoms have persisted for two weeks or longer the evidence is in favor of a solitary abscess, as the other forms generally prove fatal before this.

Correspondenz-Blatt für Schweizer Aerzte, Basel

May 10, XL, No. 14, pp. 433-464

81 *Normal Blood Pressure in Children. (Praktische Bemerkungen über den Blutdruck und über Normalwerte des Blutdruckes im Kindesalter.) F. Seiler.

May 20, No 15, pp. 465-496

82 *Analeptic Action of Alcohol in Pathologic Conditions. E. Alexandroff.

81. **The Blood Pressure in Children.**—Seiler is convinced that the general practitioner will find the blood pressure an important aid in the diagnosis and prognosis of pathologic conditions in children. He was hampered in his research on the subject by not being able to find any normal standard for the blood pressure in children of different ages and degrees of development, and consequently he has had a table of normal

standards compiled in his service. It represents extensive research and gives the age, the size in centimeters, the weight (with clothing) in kilograms, and the minimal and maximal findings with the Riva-Rocci and the Sahli instruments.

The table states that at the age of 2 and 3, the minimal Riva-Rocci findings range from 70 to 75 and the maximal from 75 to 80; at 4 and 5, minimal from 75 to 85 and maximal from 79 to 90; at 6 and 7, minimal from 72 to 87 and maximal from 85 to 95; at 8 and 9, minimal from 87 to 89 and maximal from 90 to 95; at 10 and 11, minimal from 87 to 90 and maximal from 93 to 96; at 12 and 13, minimal from 84 to 99 and maximal from 94 to 106; at 14 and 15, minimal from 88 to 98 and maximal from 93 to 104; and at 16 and 17, minimal from 95 to 110 and maximal from 103 to 120.

82. **Action of Alcohol During Febrile and Other Pathologic Conditions.**—Alexandroff injected rabbits with diphtheria toxin or other infectious products and followed with injection of alcohol, the results confirming the effect of alcohol as observed in the clinic by Dennig, Hindelang and Grünbaum in respect to the injurious action of alcohol on the circulation during febrile conditions. The alcohol improves the respiration, he found, but this favorable effect is outbalanced by its unfavorable action on the circulation, the blood pressure dropping and the amplitude growing smaller although the pulse-rate may remain the same. The conclusions are that it is necessary to restrict the use of alcohol in febrile states, weighing in each individual case whether the euphoria that follows the use of alcohol outbalances the inevitable somatic injury.

Deutsches Archiv für klinische Medizin, Leipsic

XCIX, Nos. 1-2, pp. 1-218. Last indexed April 16, p. 1344

83 Soap Crystals in Clay-Colored Stools. (Ueber die Seifenkristalle acholischer Stühle.) H. Boruttau and E. Stadelmann.
84 The Normal Eosinophile Blood Picture. (Ueber das normale eosinophile Blutbild.) J. Arneth.
85 *Variations in the Pulse-Rate Standing and Reclining. (Die Pulsfrequenz im Stehen und im Liegen.) R. Geigel.
86 Share of the Sympathetic Nervous System in the Innervation of the Head. (Beteiligung des sympathischen Nervensystems an der Kopfinnervation.) L. R. Müller and W. Dahl.
87 Changes in the Adjoining Endocardium with Aortic Insufficiency and Stenosis. (Veränderungen am Endokard der Pars aortica bei Insufficienz und Stenose des Aortenostium.) A. Wilke.
88 *Action of Epinephrin in Respect to the Tonicity of the Peripheral Vessels. (Adrenalinwirkung und peripherer Gefässtonus.) L. Lichtwitz and C. Hirsch.
89 Power of Hemoglobin to Combine with Oxygen. (Ueber das [illegible] in normalen und pathologischen Zuständen. II. [illegible]) E. Masing and R. Siebeck.
90 *[illegible] Aortic Valve. (Traumatische [illegible]ppe, zugleich ein Beitrag zur Anpassungsfähigkeit des Herzmuskels.) E. Steinitz.
91 Gastric Digestion of Protein. (Ueber Proteolyse im Magen.) L. Kohlenberger.
92 Neutralizing Function of Ammonia in Urine. (Das Harnammoniak beim gesunden Menschen unter dem Gesichtspunkt einer ausschliesslich neutralisatorischen Funktion desselben, sowie die Bilanzverhältnisse zwischen Säuren und Alkalien im menschlichen Harn bei verschiedener Ernährung.) W. Klein and F. Moritz.

85. **Variations in Pulse Rate During Standing and Reclining.**—Geigel is convinced that unless the pulse is examined both as the patient stands and reclines the conclusions are liable to be erroneous as the rate may vary by 24 to 72 per cent. as the extremes; the average is under 30 beats. He has notes of the findings in 789 cases, the patients being examined in both positions. As a rule the pulse drops by 12 beats as the individual reclines. Even with exophthalmic goiter the pulse slowed by several beats as the patient reclined. It is his impression that unusually wide variations and acceleration of the pulse on reclining are signs of weakness of the heart. The effort of lying down may accelerate the pulse in some cases; he advises examination for this "negative" behavior on suspicion of heart disease, nephritis or neurasthenia, and urges double examination of the pulse, standing and reclining, in every clinical case.

88. **Action of Epinephrin on the Peripheral Vessels.**—Lichtwitz and Hirsch removed the nerve controlling the vessels in the rabbit's ear and then tested the action of epinephrin on the vessels in this area. In all their experiments intravenous injection of epinephrin elsewhere had an exceptionally intense constricting action on the vessels in the region deprived of its nerves. Their experiments also showed the prompt antagonistic action of amyl nitrite. They suggest as a practical conclusion from their research that the continuous administration of small doses of a suprarenal extract offers prospects for successful treatment of paralysis of the vessels in acute infectious diseases and also in postoperative collapse.

90. **Traumatic Laceration of the Aortic Valve.**—One leaf of the valve was torn but the myocardium developed compensating hypertrophy which prevented serious disturbance from the isolated valvular lesion, permitting full earning capacity with heavy work for ten years when the symptoms of aortic insufficiency became more pronounced. The case is reported as a remarkable example of the way in which the myocardium can adapt itself to pathologic conditions.

Deutsche medizinische Wochenschrift, Berlin

May 26, XXXVI, No. 21, pp. 969-1016

93 *General Anesthesia with Part of Circulation Shut Off. (Narkosen bei künstlich verkleinertem Kreislauf.) P. Franke.
94 Experiences with Various Types of Tuberculin in Treatment of Tuberculosis. G. Jochmann.
95 *Treatment of Chronic Congestion of the Brain. F. Lots.
96 *Favorable Influence of Roentgen Rays in Exophthalmic Goiter. (Zwei Fälle von Basedowscher Krankheit durch Röntgenstrahlen sehr günstig beeinflusst.) D. Kuchendorf.
97 Complement Content of the Blood with Cancer. (Ueber den Komplementgehalt des Blutes Krebskranker.) C. S. Engel.
98 *Improved Technic for Palpation of the Abdomen. A. Galambos.
99 *Experimental Stimulation of Milk Production and the Secretion of Milk in the Blazek United Twins. (Experimentelle Milchauslösung und Verhalten der Milchabsonderung bei den zusammengewachsenen Schwestern Blazek.) K. Basch.
100 *Thyroid Weakness and Sugar Hunger. (Schilddrüsenschwäche und Zuckerhunger.) A. Siegmund.

93. **General Anesthesia With Part of the Circulation Shut Off.**—Franke has applied the Esmarch bandage to the thighs or arms or both as a preliminary to chloroform anesthesia, according to Klapp's suggestion, and has been impressed with the advantages of thus shutting off the blood in these regions from the influence of the anesthetic, the anesthesia being induced with much smaller amounts of the drug than with the ordinary technic. The method cannot be used in case of varicose veins or eczema, joint and bone affections; it will evidently have to be restricted to healthy and vigorous limbs, but under these conditions he feels that it is destined to a wide sphere of usefulness, especially for correction of dislocations, fractures, incision of phlegmons and other brief operations. The patients passed under the influence of the chloroform without any phase of agitation and it was rare at any stage of the anesthesia. The breathing was always regular and there was no cyanosis nor salivation; the pulse rate increased a little after the band was applied and again when it was removed, in one case becoming a little irregular for 10 or 20 minutes. There was no vomiting in any case, either before or after the narcosis, and the patients roused in less than 10 or 15 minutes after suspension of the drug. The return to the circulation of the blood overladen with carbon dioxid exerted a pronounced stimulus on the respiration center, evidenced in each case by several deep breaths. There were no complaints of pain from the constriction. The bandage must be inelastic and applied according to Klapp's directions. (They were summarized in THE JOURNAL Oct. 19, 1907, page 1408.) The aim is to shut off as much as possible of both venous and arterial blood; even one leg may answer the purpose. The pulse and general condition and the condition of the limb or limbs excluded from the circulation should be supervised every moment, as with the Momburg belt constriction. A slight transient nervous disturbance was observed in one case in which the band had been left in place for two hours on both legs, and Gräfenberg has recently reported thrombosis in 7 out of 75 cases in which the Klapp technic had been applied. The disturbances proved slight and transient, but they warn that vessels distended with blood are more liable to injury than when the Esmarch bandage is applied to a bloodless limb.

95. **Treatment of Chronic Congestion in the Brain.**—Lots expatiates on the necessity for treating this condition by drawing the blood away from the head while striving to restore and enhance the elasticity of the middle coat of the cerebral arteries. For fifteen years he has been using a method of treatment which he thinks fulfills both conditions and he has recently had occasion to study the mechanism of its action on a young man with a large defect in the skull permitting direct observation of the behavior of the pulse. The treatment includes dry rubbing of the skin over the entire body with a coarse cloth, and trampling barefoot on a pile of fine gravel heated from below. This latter form of application of centripetal stimulation he calls *Kieslaufen*, "gravel

running," and every time it was applied the plethysmographic findings in the instructive case described showed the marked influence of the procedure in reducing the congestion in the head. It may be difficult to distinguish between the symptoms of congestion and those of anemia in the brain; everything that raises the blood pressure and tends to paralyze the middle coat of the arteries increases the disturbances in case of hyperemia in the brain while it reduces them in case of anemia. He warns that a history of syphilis in any case does not necessarily indicate that headache and vertigo are due to "brain syphilis"; they may be the result of simple congestion and mercury and iodid would only aggravate them. His barefoot "gravel running" can be repeated several times a day, up to a half hour each time.

96. **Benefit from Roentgen Rays in Exophthalmic Goiter.**—In the first of the two cases reported by Kuchendorf, part of the enlarged thyroid had been removed on account of cancer but there was prompt inoperable recurrence. Under Roentgen-ray exposures, however, the lesion retrogressed and with it the symptoms of exophthalmic goiter and after a month at Nauheim the patient, a young soldier, reported for duty and has been clinically in good health, with no signs of recurrence during the two years since. The results were equally good in the second case; the patient was a woman who had suffered from progressive symptoms suggestive of exophthalmic goiter for ten years, rebellious to the usual medical measures. As a last resort before thyroidectomy, the Roentgen rays were applied to the thyroid and heart four times each, and the palpitations subsided, as also the profuse sweats; the pulse became regular (78), the circumference of the neck is less by 3 cm. than before treatment, and the eyes no longer protrude so much, while the patient sleeps well and feels well and the dilated heart has returned to a normal outline. The last exposure was in February; whether the benefit attained is permanent or not, it was so striking that he calls attention to the case as suggesting a direct influence of the rays on the cardiac ganglia.

98. **Palpation of the Abdomen.**—Galambos depresses the abdominal wall with one hand, pushing the furrow thus made toward the organ to be examined. This relaxes the wall between the organ and the furrow so that the region is soft and more readily palpated. The hand must be pushed down gently into the depths, and the entire thickness of the wall worked down toward the organ in question. It is possible in this way almost to turn over organs to facilitate palpation.

99. **Milk Secretion in Both the Blazek United Twins After Pregnancy of One.**—See Berlin letter, July 2, page 39.

100. **Thyroid Deficiency and Sugar Hunger.**—Siegmund has encountered some cases in which an inordinate craving for sugar was the most striking sign of defective functioning on the part of the thyroid. He describes two cases in detail, one in a boy under 2, the other in a girl nearly 6. In both cases thyroid treatment restored conditions approximately to normal, emphasizing that the thyroid plays an important part in the sugar metabolism in certain cases. Children with this insatiable craving for sugar tolerate large amounts without the appearance of sugar or albumin in the urine. If thyroid treatment is not practicable they should be allowed all the sugar they crave, as it seems to mitigate the consequences of the thyroid insufficiency and seems to be an arrangement for defense in a certain form of thyroid weakness. The older child had suffered for years from severe diarrhea and was extremely debilitated; by the sixth day of thyroid treatment she walked several miles without fatigue, while the appetite became normal. He sometimes gave suprarenal juice in the place of the thyroid extract, finding that this advantageously supplemented the other. The benefit was equally striking in the second case, the children becoming absolutely transformed under the thyroid treatment.

Medizinische Klinik, Berlin

May 22, VI, No. 21, pp. 811-848

101 *Gonorrheal Epididymitis and its Treatment. C. Bruck.
102 Tuberculides. S. Gross.
103 The Pupil Reaction in Epileptic Seizures. (Beitrag zur Diagnose der Fallsucht.) F. Buchbinder.
104 Improved Technic for Staining Living Spirochetes. (Färbung der Spirochaeta pallida in vivo nach E. Meirowsky.) L. Zweig.
105 Modified Form of T [illegible] (Ueber eine kompendiöse Form des [illegible] und Turgo-[illegible]
106 Advantag[illegible] formin Method for Determ[illegible] K. Reicher.
107 Inhalation Therapy, with Special Reference to Mineral Saline Waters. (Ueber Inhalationstherapie mit besonderer Berücksichtigung der Soleinhalationen.) F. Krone.
108 *Treatment of Skin Diseases with Small Trephine. (Behandlung von Hautkrankheiten mit dem Hauttrepan.) P. Richter.
109 Mucous Casts in the Urine. (Zylindroide im Urin.) L. Boros.
110 The Cobra-Venom Hemolytic Reaction. (Ueber die Kobragifthämolyse und die Much-Holzmannsche Psychoreaktion.) H. Selter and A. H. Hübner.

101. **Gonorrheal Epididymitis.**—Bruck expatiates on the importance of wearing a suspensory during gonorrhea and refraining from any excess which might aggravate the infection and lead to posterior urethritis. This is the more important as the majority of cases of epididymitis follow gonorrhea with inadequate treatment. The article issues from the university clinic at Breslau in charge of Neisser. In every case of acute febrile painful epididymitis the scrotum is sterilized with tincture of iodin and the tunica propria is incised; this relieves the pain at once and evacuates existing fluid. An alcohol dressing is then applied and if the fever subsides after a day or two gonococcus vaccine treatment is then instituted; this is especially useful in gonorrheal arthritis and epididymitis. The results have been particularly good in 50 cases of the latter. If there is no fever the tunica is not incised and the vaccine injection is made at once accompanying the first alcohol dressing. If the nodules do not subside, hot sand packs are applied for a few days to hasten absorption; if these fail, a dressing of adhesive plaster generally accomplishes the desired purpose. It is also the practice to give 3 mg. of atropin daily in every case of acute posterior gonorrheal infection to keep the prostate, seminal vesicles, etc., quiet and prevent dangerous retrograde movements. Even with already existing unilateral epididymitis, smaller doses up to 1 mg. daily are given for several days. This prophylaxis is not absolutely reliable, he remarks, but even if it succeeds in only a few cases the measure is justified as sterility is said to follow unilateral epididymitis in 40 per cent. of the cases and in 90 per cent. of the bilateral cases.

108. **The Skin Trephine.**—Richter has found extremely useful a small cylinder with a cutting edge. By twisting the cutting edge into the summit of a furuncle or other focus, the little disc of skin thus cut is easily removed and the scar left is minimal. This little skin trephine is also useful for obtaining blood for clinical diagnosis. He supplements the use of the trephine with a suction apparatus when the plug does not come away at once.

Münchener medizinische Wochenschrift

May 24, LVII, No. 21, pp. 1105-1160

111 *Rapid Instrumental Dilatation of the Cervix Uteri. (Entbindung durch rasche Erweiterung des Collum uteri.) M. L. Bossi.
112 The Third Left Convolution Plays no Part in the Central Mechanism of Speech. (Die linke dritte Stirnwindung spielt keine Rolle im zentralen Mechanismus der Sprache.) v. Niessl-Mayendorf.
113 *Superheated Air in Treatment of Erysipelas. (Behandlung des Erysipels mit heisser Luft.) C. Ritter.
114 [illegible] on with Cancer. (Die Meiostagminre-[illegible] Geschwülsten.) F. Micheli and F. [illegible]
115 [illegible] icitis within Two Months in a Boarding School. (Endemie von Appendizitis.) C. Hasse.
116 Premature Ossification of Costal Cartilages as Possible Roentgen-Ray Injury. ([illegible] Verknöcherung der Rippenknorpel ein[illegible] B. Wiesner.
117 Modification of the W[illegible] E. v. Dungern and Hirschfeld.
118 Intravenous General Anesthesia. (Zur Frage der intravenösen Narkose.) P. Sick.
119 *Prophylaxis of Uterine Cancer. (Gebärmutterkrebs und Aufklärung des Publikums.) F. Müller.

111. **Instrumental Dilatation of the Uterine Cervix.**—Bossi compares the various methods for rapid emptying of the uterus and states that nineteen years' experience with his metal bladed dilator has demonstrated that this method can be applied in nearly every case, even when there has been no change in the cervical passage, and without necessity for an assistant. The dilator has a natural labor-promoting effect as well as a mechanical action as it stimulates natural labor

contractions; but the obstetrician is not subject to Nature's caprices; with the steel dilator he is her *master*. *The liability to laceration is the only objection to the method*, and this injury is rare when the gravity of the cases demanding the rapid emptying of the uterus is taken into consideration. Even with spontaneous and forceps deliveries, he remarks, laceration *is liable to occur, and cervical incisions* cause deeper and certain lesions and danger of laceration of the uterus. *None of* the dilators in vogue has proved any improvement, he declares, over his original dilator, but it must be used strictly *according to his directions, introduced* under the guidance of the fingers, the fingers guarding the cervix while the dilator is in place: the blades should be spread only very gradually, and only during a pause between the labor contractions. He has applied the dilator in 480 cases and 454 of the mothers were saved and all but 60 of the children. The main point is to refrain from haste, except in extreme emergencies. He takes from 15 minutes to an hour and a half to dilate the cervical canal sufficiently for extraction of the child. This he does generally with forceps and at once; the cervix dilated in this way is liable to contract soon again. Chloroform can be given, he says, without harm, and general anesthesia is directly indicated in eclampsia requiring rapid emptying of the uterus. *If the forcible dilatation is to be merely preliminary to spontaneous delivery*, he places the patient in a *horizontal position after a few energetic contractions have been observed and holds the dilator in place* with a bandage, spreading the branches a trifle occasionally to keep up the stimulus, and removing the instrument when delivery is impending, replacing it if the contractions become weak again.

118. **Superheated Air in Treatment of Erysipelas.**—Ritter has applied the hot-air douche in treatment in 19 cases of erysipelas and states that the rapid recovery was *striking*. *The jet of superheated air* was applied to the spot for half an hour to an hour two or three times a day. Absorption is promoted to such an extent that there is generally a slight rise of temperature afterward. The lesions were usually on the face and neck; when other parts of the body were involved he used the hot-air box or chamber (or a hot flat-iron).

119. **Prophylaxis of Uterine Cancer.**—Müller gives an illustration of a *circular* which he hands to every patient and has printed on the back of the certificates, etc., he makes out. It states in display type that every woman should apply to a physician at once for examination in case of irregular bleeding, especially after marital intercourse and during the change of *life* and afterward, *and in case of an ill-smelling discharge that looks* like water in which meat has been rinsed. The text concludes with the statement that cancer of the womb is permanently curable *but only* by an operation done at the right time; that is, when the patient applies to a physician as early as possible.

Therapeutische Monatshefte, Berlin

May, XXIV, No. 5, pp. 225-280

120 *Importance of Absolute Repose in Treatment of Pneumonia. (Zur Behandlung der [illegible] Volland.
121 Importance of Silence ir [illegible] Tuberculosis. (Zur Schweigebehand... [illegible] kulose.) E. Ebstein.
122 *Scabies and Nephritis. Braune.
123 *Operative Treatment of Diffuse Meningitis. G. Krebs.
124 *Treatment of Spasm *of the Glottis by* Exclusion of Milk from the Diet. (Behandlung des Stimmritzenkrampfes mit kuhmilchfreier Ernährung.) F. Fischbein and L. Langstein.
125 Behavior of Peroxids in the Gastrointestinal Tract. (Verhalten der Superoxyde im Verdauungstrakt.) K. Boas.
126 *Indications for Mercurial Treatment in Simple Atrophy of the Optic Nerve. (Indikation für die Quecksilberbehandlung bei der einfachen Sehnervenatrophie.) Schultz-Zehden.

120. **Absolute Repose in Treatment of Pneumonia.**—Volland has been teaching since 1893 the importance of absolute bed rest in the dorsal decubitus in pneumonia and pleurisy and declares that both theory and practice confirm the great value of this measure. He does not have the patient move at all and does not let him sit up even to be examined, not wishing to allow the weight of the consolidated lung to drag down on the diaphragm or pull on the sound parts of the lung. The pneumonic lobe loses all its elasticity and acts like a heavy weight, traction from which is liable to do serious harm to the blood and lymph vessels and to the air cells. He thinks the physician can judge of the case well enough without the *necessity for thorough physical* examination of the lungs. As the patient lies on his back the inflamed part of the lung has a firm support against the rear wall of the thorax and the patient feels easier in this position. Treatment should aim to relieve pain, promote expectoration but reduce the impulse to cough, keep the fever down with local cold applications and stimulate the heart at need.

122. **Scabies and Nephritis.**—Braune encountered three cases of *nephritis* accompanying scabies and discusses whether there is a causal connection between them or between the nephritis and the beta-napthol or balsam of Peru used in treatment of the scabies. In these and in a number of similar cases in the literature the nephritis did not develop until after the scabies had entered an eczematous stage. It seems *probable that the scabies* is able to aggravate an already existing nephritis but the matter is still obscure, and he urges systematic examination of the urine before, during and after treatment of the scabies in order to get an insight into the factors responsible for the nephritis.

123. **Operative Treatment of Diffuse Meningitis.**—Krebs' patient was a woman of 34 who developed middle ear disease with an insidious onset and perforation of the tympanic membrane by the end of three months. A large extradural abscess was evacuated two weeks later but symptoms followed typical of internal ear disease and meningitis, rapidly progressing to paralysis and coma and the patient was apparently moribund. The middle cranial fossa was opened and then the posterior; the cortex was congested and swollen but no suppuration could be found; on account of a tendency to hemorrhage from the sinus petrosus no attempt was made to open into the labyrinth. *The meningitic symptoms rapidly* subsided and recovery was soon complete. The case is cited as encouraging operative treatment in every case of meningitis *originating in middle ear disease* when the pulse and *respiration permit the hope that the patient will leave the table alive.* The case further warns that the findings in the cerebrospinal fluid are liable to be misleading and that lumbar puncture may be dangerous, as withdrawal of 2 or 3 c.c. of a slightly turbid fluid, which dripped slowly, was followed by *immediate collapse requiring six hours of active measures for resuscitation.* Kümmell has reported a case of traumatic meningitis with the fluid like thick pus and yet the patient recovered. Schlesinger has reported a case in which the meningitis became worse after lumbar puncture. Krebs lost three patients while waiting after exposure of the dura; he now makes a practice of incising the dura at once if there are signs of pronounced meningitis. The opening must be *ample*; hernia of the brain is equally liable with a small as with a large incision, so he makes a large crucial incision and on suspicion of an abscess in the brain inserts the *scalpel* at several points in the temporal lobe and cerebellum. He did not change the dressings for a week in the case reported. Saline transfusion of 500 gm. was made before and after the operation. The patient was discharged cured in three weeks but the pulse persisted small and fast for months longer.

124. **Treatment of Spasmophilia by Excluding Cow's Milk from the Diet.**—Fischbein insists anew that the *change from cow's milk to a carbohydrate, starch diet is often a* life-saving measure with spasm of the glottis and general convulsions in the spasmophilic diathesis. He asserts that the prompt influence from this change in diet may differentiate disturbances from this cause when the symptoms *otherwise* suggest meningitis or otitis media. It is also useful in controlling the spasms in whooping-cough. Langstein warns, however, that the starch diet may have a pernicious effect with infants suffering from severe gastrointestinal disturbances. Breast milk is alone permissible in these cases. He doubts further whether the spasms in whooping-cough are *amenable* to this measure although conceding that they generally develop on the basis of the spasmophilic diathesis. Eckert has reported excellent results from lumbar puncture.

126. **Mercurial Treatment of Atrophy of the Optic Nerve.**—Schultz-Zehden reviews what has been written *on* experi-

mental and clinical injury of peripheral nerves by mercury, especially injury of the optic nerve, and then relates his experiences with mercury in treatment of atrophy of the optic nerve with and without an organic nervous affection. His conclusions are all in favor of a mild cautious course of mercurial treatment in simple atrophy of the optic nerve, and above all when there is a history of syphilis and the optic atrophy is the only symptom. Remission of the symptoms in tabes may also be realized under mercurial treatment if there is a history of syphilis, the Wassermann reaction positive or, if negative, a history of inadequate specific treatment, and when the state of nourishment and absence of physical and mental stress augur well for the treatment. The dosage should be mild and cautious, never pushing the mercury, and the field of vision and visual acumen should be constantly supervised.

Virchows Archiv, Berlin

May, CC, No. 2, pp. 193-384

127 Cancroids. A. Calderara. Commenced in No. 1.
128 Case of Lime Incrustation of the Lungs. (Fall von Kalkinkrustation der Lungen mit Fragmentation der elastischen Fasern.) G. A. Pari.
129 *Inhalation of Coal Dust by Children. (Ueber die Staubinhalation bei Kindern.) S. Shingu.
130 The Iron Reaction [illegible] Tissues. (Zur Frage der Eisenreaktion [illegible] insbesondere des Knochens.) M. [illegible]
131 Behavior of Bone Marrow During Children's Diseases. (Ueber das Verhalten des Knochenmarkes bei verschiedenen Erkrankungen des Kindesalters.) J. Lossen.
132 Permeability of Normal Intestine Wall for Minute Particles. (Ueber die Permeabilität der normalen Darmwand für kleine Körperchen.) W. C. A. Arbeiter.
133 Tuberculosis of Parotid Gland. (Fall von Parotistuberkulose als Beitrag zur Frage der Genese der tuberkulösen Riesenzellen.) R. Klotz.
134 Two New Cases of Congenitally Abnormally Large Parietal Foramen. A. Macleszn.
135 Eye Changes with Leukemia. (Ueber Augenveränderungen bei der akuten und der chronischen Leukämie.) P. Verderame.

129. **Soot in Children's Lungs.**—Shingu examined the lungs from 22 children at Berlin to determine the presence of particles of coal dust, and found them constantly in all the children over 23 days old. The amount was not always proportional to the age.

Zeitschrift für Urologie, Berlin

May, IV, No. 5, pp. 231-400

136 Pathology of Gonorrhea in the Male. (Beiträge zur Pathologie der Gonorrhoe des männlichen Urogenitalkanals und seiner Adnexe.) G. Rost.
137 Incontinence of Urine from Urethral Stricture. (Zur Incontinentia urinae infolge von Striktur der Harnröhre.) D. Kokoris.
138 Blood Pressure in Diagnosis and Prognosis of Surgical Kidney Disease. (Bedeutung der Blutdruckmessung für Diagnose und Prognose chirurgischer Nierenkrankheiten.) C. Adrian.

Zentralblatt für Chirurgie, Leipsic

May 28, XXXVII, No. 22, pp. 769-792

139 *Technic for [illegible] of Enlarged Thyroid. (Zur Technik [illegible] C. Arnd.
140 *Etiology of [illegible] Myositis. P. Ewald.

June 4, No. 23, pp. 793-816

141 *Improved Technic for Nephropexy. (Zur Operationsmethodik der Nephropexie.) L. Casper.

139. **Therapeutic Displacement of Enlarged Thyroid.**—In the case reported by Arnd, the left half of the goiter with the parathyroids had been removed, but mechanical disturbances persisted and increased, the lower right half compressing the trachea. Its operative removal seemed hazardous on account of possible injury to the remaining parathyroids. Arnd separated the enlarged thyroid from the trachea and ligated the superior artery. He then separated the sternomastoid from the cleidomastoid upward from the clavicle and pushed the smooth thyroid tumor through the resulting slit. It pushed through readily and was held firmly by the muscles without suturing.

140. **Etiology of Traumatic Ossifying Myositis.**—Ewald suggests that possibly the synovia forced into an adjacent broad leshy muscle by the trauma may be responsible for starting he ossifying process. It seems to develop only under such ircumstances.

141. **Nephropexy.**—Casper incises the fibrous capsule and hells the kidney out of its adipose capsule. He then pushes he capsule back and down, cutting it off about 1 cm. from the hilus in front, and cutting off the upper half in the rear. The remaining rear half of the fibrous capsule is then folded together and sutured to the quadratus lumborum in such a way that the upper part of the kidney, or at least half of it, is brought beneath the costal arch. No suture is passed through the parenchyma of the kidney, but the two through the fibrous capsule sustain the kidney until adhesions develop between its rear raw surface and the quadratus lumborum and the front raw surface and the abdominal wall. He has performed this operation for wandering kidney in 19 cases, and for nephritis causing anuria, colics or hematuria in 10 other cases. One patient with extremely contracted kidney died. In all the other cases the kidney grew solidly to its environment.

Zentralblatt für Gynäkologie, Leipsic

May 28, XXXIV, No. 22, pp. 721-752

142 Question of Necessity for Legal Regulation of Artificial Abortion. (Zur Frage der Notwendigkeit gesetzlicher Bestimmungen für den künstlichen Abortus.) H. Peters and R. Blumm.
143 Local Anesthesia in Treatment of Endometritis and Abortion. A. Kraatz.

June 4, No. 23, pp. 753-800

144 Improved Laparotomy Retractor. (Neuer Bauchdeckenhalter.) [illegible]
145 [illegible] of Eclampsia. (Zur Theorie der [illegible] J. Thies.
146 *[illegible] in Treatment of Eclampsia. W. [illegible]
147 *Recovery from Puerperal Eclampsia After Decapsulation of the Kidney. (Ein durch Nierendekapsulation geheilter Fall von puerperaler Eklampsie.) K. Baisch.
148 *Isolation of Stumps of Uterine Adnexa in Laparotomies for Gynecologic Disease. (Neue Technik bein gynäkologischen Laparotomien.) E. Solms.
149 Obstetric Rachiotomy Superior to Decapitation. (Rhachiotomie—Rhachioklast.) V. Caliri.

146. **Prophylactic Method of Treating Eclampsia.**—Stroganoff reaffirms the efficacy of his method of treating eclampsia by keeping the patients under the influence of morphin, chloral and chloroform, with heat applied to feet and kidney region, milk by the rectum or mouth, and avoidance of any irritation. The details of his method were given in The Journal, July 3, 1909, page 86, and Sept. 20, 1902, page 733. The mortality of the mothers has been 6.6 per cent. and of the children 21.6 per cent. in the 400 cases of eclampsia in which this method has been followed. He here describes his experience with it in some test cases at Vienna, urging that its systematic application would reduce the mortality below 2 per cent. as he has done in several long series of cases, without any necessity for hastening delivery or for decapsulation of the kidney.

147. **Decapsulation of the Kidney in Eclampsia.**—Baisch commends decapsulation of the kidney as the most potent and reliable means of stimulating diuresis at our command. In a case reported in detail the primipara was apparently moribund; the eclamptic seizures, coming on after spontaneous delivery, were so severe that artificial respiration was required for a long time after each; the pulse was soon 120 to 130, the blood pressure 150 mm. and only 248 c.c. of urine with albumin 15 per thousand, were obtained in 19 hours. There were no further seizures after the decapsulation and the coma subsided at once; by night 400 c.c. urine with 3 per thousand albumin had been passed.

148. **"Isolation of the Stumps" of the Adnexa.**—Solms draws the stumps down into the small pelvis and shuts off the open abdominal cavity completely, providing for drainage at need with openings in the front and rear roof of the vagina. The fundus of the uterus is drawn over forward and fastened to the vaginal wall, incised for the purpose. The technic insures that all raw parts are excluded from the peritoneal cavity, and the secretions from the isolated stumps are drained away into the vagina. He says that the method can be applied to the uterus also after myomectomy, etc., and that it obviates danger of infection of the peritoneum from any processes in the genitalia.

Zentralblatt für innere Medizin, Leipsic

May 28, XXXI, No. 22, pp. 545-568

150 The Heart Rhythm in Dogs and Cats Not Modified by Destruction of the Keith-Flack Node. (Bedeutung des Keith-Flack'schen Knotens für den Herzrhythmus.) T. Jaeger (Chicago).

June 4, No. 23, pp. 569-600

151 *Combined Oxygen-Epinephrin Inhalation Method of Treatment of Bronchial Asthma. (Sauerstoff-Adrenalintherapie des Asthma bronchiale.) J. Segel.

151. **Oxygen-Epinephrin Treatment of Bronchial Asthma.**—Segel has an arrangement by which the patient inhales oxygen mixed with 1 c.c. of a 1 per thousand solution of epinephrin and reports two cases in which these inhalations promptly cured severe bronchial asthma, persisting since early childhood, refractory to all other therapeutic measures. *The combined oxygen-epinephrin treatment gave remarkable relief in one or two applications and after thirty in the course of two months the cure seems to be complete.* The first patient was a woman of 51, the other a girl of 16. *A single sitting was followed by a night free from asthma, for the first time in years.* The second patient is still taking one sitting a week. He declares *that this simple inhalation method justifies the strongest hopes, and it should certainly be given a trial.* He experimented with it on himself for weeks until convinced that the combined oxygen-epinephrin inhalations were free from any influence on the blood pressure and untoward by-effects.

Policlinico, Rome

May 22, XVII, No. 21, pp. 643-674

152 Cultivation of Leishman Bodies in Blood from the Spleen with Addition of Citric Acid. (*Sulla coltivabilita della Leishmania infantum nel sangue splenico infetto citratato.*) A. Longo.

May 29, No 22, pp. 676-706

153 *Sodium Carbonate and Acetic Acid Seroreaction. (Su di una nuovissima e facile siero ed emoreazione col carbonato di sodio e l'acido acetico dilutissimi e sul suo insigne valore semiologico e prognostico.) F. Rivalta. Concluded in No. 23.

May, Surgical Section, No. 5, pp. 193-240

154 Lipomas on Skull or Foot. (Lipoma a seda rara.) G. Serafini.

155 Epithelioma Derived from Basal Cells. (Contributo alla conoscenza dell'epitelioma delle cellule basali.) V. Gaudiani.

156 Experimental Research on Defensive Action of Constriction Hyperemia. (Ricerche sulla azione difensiva della stasi.) M. Almagia and R. Tata.

153. **Acetic-Acid Seroreaction.**—Rivalta published in 1904 a method of distinguishing between transudates and exudates *by the precipitation of the globulins in the fluid by a weak solution of acetic acid.* If a drop of the fluid to be examined is dropped into a glass containing 100 c.c. of water with which two drops of glacial acetic acid have been mixed, the drop of organic fluid leaves a trail like a little smoke as it sinks down through the water. He now announces that this test slightly modified can be used for the diagnosis and prognosis in various conditions, *the positive reaction in an extremely weak dilution of the acetic acid indicating the resisting powers of the organism, as estimated by the ability to produce globulins.* In health serum gives the reaction at 1: 150 or 1: 300 but in *pneumonia the figures were 1: 400 up to 1: 2500; in 19 cases of typhoid up to 1: 900.* The lower the figure the graver the prognosis as a rule, the increase of the globulins *in the blood showing the active processes of defense going on.* He describes the technic for both the serum and the blood test, but the former is simpler. While the blood is clotting, he mixes one drop of a saturated solution of sodium *carbonate* with 100 c.c. of *distilled water, and in another* glass two drops of glacial acetic acid with 100 c.c. of distilled water. Then 0.5 c.c. of the serum is transferred to a test tube which is then filled to 10 c.c. with the sodium carbonate solution. This is the mother serum solution, and a drop is taken on a glass rod, held vertically, and transferred to the acetic-acid solution; it drops from the rod in the form of a white ring, best seen by artificial light. The serum is *diluted again* and again to determine the extreme limits of the reaction. He relates his experiences with it in a number of cases.

Hospitalstidende, Copenhagen

April 13, LIII, No. 15, pp. 417-440

157 Two Cases of Multiple Syphilitic Atrophy of the Skin. (To Tilfaelde af postsyfilitiske multiple Hudatrofier.) H. Petersen.

April 20, No. 16, pp. 441-464

158 Carbon Dioxid in Regulation of Lung Ventilation. (Om Kulsyre som Regulator i Organismen og Aarsagerne til kirurgisk Shock.) A. Krogh.

April 27, No. 18, pp. 489-512

159 Favorable Results of Roentgen-Ray Treatment in 3 Cases of Hemorrhagic Uterine Myoma. J. Jensen. Commenced in No. 17.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our *readers and as space permits.*

DIE RÖNTGENTHERAPIE IN DER DERMATOLOGIE. Von Dr. Frank Schultz, Privatdozent, Oberarzt der Abteilung für Lichtbehandlung an der Kgl. Universitätspoliklinik für Hautkrankheiten zu Berlin. Paper. Price, 6 marks. Pp. 143, with 130 illustrations. Berlin: *Julius Springer, 1910.*

THE EVIDENCE OF PLAGUE INFECTION AMONG GROUND SQUIRRELS. By George W. McCoy, Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service. Paper. Pp. 8. Washington: *Government Printing Office, 1910.*

DIAGNOSTISCH-THERAPEUTISCHES TASCHENBUCH DER TUBERKULOSE. Ein Leitfaden für den praktischen Arzt. By Dr. D. Epstein, Kief, Russia. Cloth. Price, 5 marks. Pp. 143. Vienna: Urban & Schwarzenberg, 1910.

TUBERCULOSIS OR CONSUMPTION AND HOW TO AVOID IT. Lessons for School Children. *Provided by Dispensary Aid Society of Tuberculosis League of Pittsburg.* Paper. Pp. 48, with illustrations.

STUDIES FROM THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH. Reprints. Volume X. Paper. Pp. 277. New York: The *Rockefeller Institute for Medical Research, 1910.*

DIE ORTHOPÄDIE DES PRAKTISCHEN ARZTES. Von San.-Rat Dr. Georg Müller, Berlin. Paper. Price, 8 marks. Pp. 258, with 151 illustrations. Vienna: Urban & Schwarzenberg, 1910.

DIE PRAXIS DER LOKALEN ANÄSTHESIE. Von Dr. Artur Schlesinger, Berlin. Cloth. Price, 5 marks. Pp. 160, with 22 illustrations. Vienna: Urban & Schwarzenberg, 1910.

New Patents

Recent Patents of Interest to Physicians

950065.	Surgical appliance. James N. Alexander, Pratt City, Ala.
949749.	Microscope. Edward Bausch and W. L. Patterson, Rochester, N. Y.
949925.	Composition of matter to be used for the removal of superfluous hair. Cornelia J. Brown, Los Gatos, Cal.
950435.	Obtaining proteocellulosic products. Henri L. J. Chavassieu, Lyons, France.
950436.	Separation of oxygen and nitrogen from liquid air Georges Claude, Paris, France.
950430.	Water-purifier. Milton B. Cresswell, Des Moines, Iowa.
950347.	Ozone generator. Robert W. Rice, Cleveland, Ohio.
950159.	Manufacture of trisodium phosphate with hydrated sodium carbonate. William E. Ridenour, Philadelphia.
950143.	Bandage. Earl H. Saxe, Lansdale, Pa.
950059.	Massage apparatus. Emma G. Sickels, New York City.
950121.	Cup or head for massage device. Charles M. Siebert, Jr., Columbus, Ohio.
950357.	*Extracting caffein. Heinrich Trillich, Munich, Germany.*
951044.	Combined hot-water bottle and Syringe-reservoir. Sherman L. Axford, Burlington, Kan.
950738.	Nebulizer. Burton E. Baker, Hartford, Conn.
950993.	Supporter. Mary M. Buchholz and M. A. Malloy, Spokane. Wash.
950658.	Opium ointment. Thomas H. Cadenhead, Georgetown, Ga.
951067.	Ap[illegible] and alcohol. Charles [illegible] lez Lille, France.
950816.	Respirator and the like. [illegible]ksson and P. M. Arvidsson, Solleftea, Sweden.
950484.	Attachment for poison-bottles. Lewis Inslee and C. M. Hart, Amityville, N. Y.
950854.	Sanitary head-rest. Ernest E. Koken, deceased, St. Louis, Mo., W. F. Koken, executor.
950822.	*Hypodermic needle.* Patrick J. McElroy, Cambridge, Mass.
950514.	Abdominal belt and uterine supporter. Elizabeth M. O'Mera, Providence, R. I.
950876.	Sterilizer and water-heater. Albert R. Talbott, Ellis, Kan.
950545.	Caster for operating-tables. Albert Taubert, New York.
950977.	Means for deodorizing and drying night-soil and the like. Ernest T. Welcome, Pittsburg, Pa.
40558.	Design, liquid-dispensing fountain. Frank W. Calvert, Narberth, Pa.
951560.	Surgical chair. Ilda Eaton, Aurora, Neb.
951634.	Compound of guaiacol and making same. Franz Elger, Basel, Switzerland.
951309.	Chiropodist's knife. Ammaroy Eskridge, Chicago, Ill.
951184.	*Catamenial bandage.* Manly M. Gillam, New York City.
13089.	Instrument for determining the position of an organ or the like within human bodies. J. Gillet, Schoneberg, Germany.
951243.	Making sodium carbonate. Wilhelm Hasenbach, Mannheim, Germany.
951564.	Surgeon's an[illegible] Max P. Hermann and C. H. Wolff, [illegible]
951443.	Ozonizer Osc[illegible] Ill.
951648.	[illegible] Albert M. Loughney, [illegible]
951195.	[illegible]ay, Dusseldorf, Germany.
951285.	[illegible]eyer, *Chicago,* Ill.
951330.	Sanitary cuspidor for railway cars. John L. Oglebay, Rochester, Ind.
951149.	Artificial foot. James F. Rowley, Chicago, Ill.
951515.	Attachment for physicians' operating-tables. F. H. Solsem, Peterson, Minn.
951749.	Aspirator. Isidor Steiner, Munich, *Germany.*
951160.	Syringe. John W. Wainwright, New York City.
951228.	Decomposing salts. Jasper Whiting, Boston, Mass.
951789.	Ozone-generator. Frank M. Ashley, New York City.
952307.	Spirometer. *Lysander* D. Childs, Chester, S. C.
951989.	Artificial limb. James E. Hanger, Washington, *D.* C.
952248.	Oxidizing atmospheric nitrogen. *Henry* Howard, Boston, Mass.
952365.	Aseptic drinking-cup. James G. Sharon, Quincy, Fla.
951893.	Pasteurizing apparatus. Henry E. Weber, Canton, Ohio.

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THE RÔLE OF PEDIATRICS IN PREVENTIVE MEDICINE*

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NEW YORK

Since my paper deals with no narrow specialty, but one which involves the application to youthful subjects of all the rapidly growing wealth of medical knowledge, I am aware that it will be a difficult matter to present the rôle of pediatrics in preventive medicine without trenching somewhat on the field of other speakers. As a specialty, it can scarcely be said to have been recognized in this country before the creation of a separate department for our distinguished colleague, Dr. Jacobi, at the College of Physicians and Surgeons of New York, in the year 1860. Before that time, and too largely thereafter, it was linked to obstetrics and diseases of women, with which subjects it had only a quasi connection, and in consequence its study was contracted and neglected. Having broken its bonds, however, and emerged from overshadowing obscurity, pediatrics to-day stands for the application of the same scientific methods of investigation to the immature organism of the child and the diseases to which it is liable, as are applied to the study of similar processes during mature adult life and the subsequent period of gradual senescent decay.

Nevertheless, although often referred to and practiced as a specialty, pediatrics belongs, not to the few, but essentially to all practitioners of medicine, for they, rather than the specialist, are called on to apply its teachings in family practice to the vast majority of infants and children.

To distort somewhat a well-known saying of Dr. Oliver Wendell Holmes, let me advance the view that preventive medicine, as applied to the child, should begin with the grandparents. Since, however, this carries me somewhat beyond the limits of the subject assigned to me, I must perforce begin with the birth of the child. Even at this starting point, the pediatrist finds himself disputing the territory at both ends of the social scale—at one end with the midwife, and at the other with the obstetrician. Great as is the disparity between both the knowledge and equipment of these two groups who assist in ushering infancy into this inhospitable world, suffice it to say that there is a growing feeling that greater effort should be made by both groups to secure maternal nursing, because their tenure of the field is sufficiently long to determine, often irreparably, the mode of the infant's nourishment. If breast feeding has been unnecessarily rejected, the pediatrist, when called in, must make the best of the situation as he finds it, but he cannot always retrieve the error. However, since in the majority of cases the family physician conducts the confinement and also subsequently cares for the child, we may assume that pediatric teaching governs the management of the infant from birth.

First and foremost, pediatrics deals with the nutrition of the infant, for unless it lives, science can do nothing further for its welfare. Aside from reasonable hygiene which so many healthy infants seem surprisingly able to do without, the first step in the preservation of life is suitable food. As the majority fed at the breast thrive and the more vulnerable among the infants were found among those artificially fed, early attention was inevitably centered on substitute feeding. Since cows' milk was the best available substitute for breast milk, every effort was made to render it more suitable.

The discovery of teeming myriads of bacteria in commercial milk led Soxhlet to propose sterilization, in the belief that to bacteria were due the noxious effects of cows' milk on the digestive tract of the infant. Pasteurization followed as an improved method of killing, but not necessarily rendering innocuous, the masses of bacteria with their toxins which abound in ordinary milk. Then followed the triumph of pediatric endeavor in the inauguration of the movement, destined to be world-wide, for the production of clean milk, the laurels of which we willingly share with other workers who have helped to make it a possibility. This work must suffer no abatement. Milk, fresh and uncontaminated, must be produced in increasing quantities for the use of all young children, yet even recently there have appeared those who, tinctured with commercialism and ignoring all other factors, have claimed for Pasteurization all that has been accomplished in the reduction of infant mortality. From the pediatric standpoint, the rôle of Pasteurization is and ever should be, to keep clean milk sweet until it is consumed, never merely to render a filthy milk somewhat less dangerous.

During the past decade, pediatric investigators have been restlessly and energetically active in perfecting infant feeding. The belief once cherished that an exact counterpart of human milk might be made from cows' milk was quickly shattered. Although normal infants throve in greater numbers on such mixtures, it was found that they must be adapted to the inexperience, the age, and the idiosyncracies of the individual infant. For such adaptations, rules of great value were formulated and proved, yet for the less normal digestions further studies seemed necessary. As a result, the theoretical structure on which infant feeding was first based has been torn down and rebuilt. The proteins, fats, and latterly the sugars and carbohydrates entering into the composition of bottle feedings, have been scrutinized, tested, and adjusted. As a consequence, it may now be confidently stated that the infant, fed intelligently according to modern American methods, has to-day a better chance both of life and well-rounded development than ever before in our history.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

As has been indicated, the purpose of nutrition is not only to preserve life, but to produce an uninterrupted and well-balanced development of the body. Gain in weight alone is not all that is required. Nature, as a rule, strives to do her work well, and if the conditions are favorable slights no part of it. But no workman can build well unless liberally supplied with proper material. The infant fed on condensed milk, for example, may be fat and apparently healthy, but Nature has been forced to do scamped work. In the usual dilutions, condensed milk is low in protein, lower in fat, and overrich in sugar. Such one-sided nutrition produces a development poorly fitted to withstand the effects of illness. Let it not be understood that this form of feeding is chiefly culpable. All artificial feeding holds this danger, partly because of its composition, partly because of the limitations of different infants in the digestion and absorption of individual elements in any food which replaces the natural breast milk. Such malnutrition, in greater or lesser degree, accompanies the ignorant home feeding, the carefully or carelessly yet faultily composed formulæ of many medical men, and the "just as good" substitutes of the patent-food makers. It is sometimes a question in my mind whether those errors of nutrition which are of lesser degree do not in their total produce more harm, since they are more frequent, less commonly detected, yet equally liable to leave their marks in some degree on their victims.

On the other hand, a body developed through proper, well-balanced nutrition, is not only less susceptible to diseases caused by bacterial invasion, but, if such occur, is better able to throw them off, and less liable to complications. When we realize the part played, not only by complications but by the other direct and indirect results of malnutrition in swelling the mortality figures among young children, the prophylactic importance of proper nutrition, in producing increased resistance becomes evident. Since we must all realize that the sturdy child possesses greater powers of protection and recuperation, it would hardly seem necessary to defend this premise; nevertheless innumerable instances of the effects of malnutrition present themselves to our minds.

With the marasmic infants digestive action is crippled; assimilation below par; slight errors in diet cause further disturbance; pulmonary diseases are readily acquired; hypostatic pneumonia is almost a specialty; furunculosis of a severe and debilitating type is not uncommon; suppurative conditions show little or no tendency to repair; the middle ear becomes affected on slight provocation; in the hot months, summer diarrheas more than decimate their ranks.

Rachitis, another form of malnutrition, varies so widely in the degree and distribution of its manifestations, that the claim so often made that it is present in the large majority of bottle-fed infants seems to be substantiated when careful search is made. The classical bone changes, important as they are, do not manifest the sole incidence of this common affection. The ligaments, the muscles, the nervous system, the respiratory tract and the intestine may likewise be affected and contribute to the symptomatology. Aside from such bone deformities as may influence the patient's appearance and bearing in later life, those of the thorax and pelvis are the most serious—the former increasing both the liability to and the danger from pulmonary disease; the latter, in the female, menacing in later years the life of both mother and child during parturition. The undeveloped musculature of the rachitic child, causing him to creep long after he should have walked, keeps him longer exposed to the dust and draughts of the floor, and deprives him of normal exercise, which plays such an important part in healthy development. The underfed and unstable nervous system contributes through convulsions and laryngismus its own quota of danger, not only of death, but also of lasting paralysis if there be hemorrhage at the time of the seizures. The relaxed and disturbed intestinal tract of the rachitic furnishes frequently a favorable field for the development of serious enteric affections.

The third of this group, infantile scurvy, is happily so uncommon as to play a smaller part in infant morbidity and mortality than the other forms of malnutrition, but its comparative rarity increases the danger that it may not be recognized and receive appropriate treatment. No affection of infancy can, however, be traced with greater certainty to some deficiency in the elements of nutrition, and its increasing frequency from the too exclusive and prolonged use of proprietary foods warns us to be alert in its detection.

The pediatrist has a further important rôle, as the adviser of the mother in the care of her children. All that may be summed up under the comprehensive term hygiene is taught her either in answer to her questions or through the medium of the printed page. The influence of bathing, clothing, fresh air, exercise, and hours of sleep, in the building of a resistant body and in the prevention of disease, together with the necessity for their nice adaptation to the differing periods of infancy and childhood, need only to be mentioned to this audience to be appreciated.

It is also the privilege of the children's physician not only to treat disease, but to foresee and prevent it. Simple as seems this statement, an incalculable amount of benefit can be bestowed on humanity in this way. Aside from the countless ills which can be prevented by proper management of the feeding, anemia must be recognized and treated if the child is to escape the severer effects of the acute infectious diseases. Rachitis, already mentioned, which the parent invariably overlooks until its effects are marked and possibly irremediable, must be detected and checked. The prophylactic care of the teeth, so commonly neglected because of the division of responsibility with the dental surgeon, should be insisted on from their earliest eruption. Adenoids and hypertrophied tonsils, which are rarely brought to the attention of the throat specialist until they have already wrought injury to the child in one or more directions, should be recognized and removed. The popular view, so often advanced, that adenoids and tonsils will be outgrown, or that it is scarcely worth while to remove them since they may later recur, is, without question, the echo of evasive statements made by physicians, who, feeling themselves incompetent to perform these simple operations, were the more willing to defer them indefinitely.

In direct opposition to the views of certain rhinologic colleagues, I believe that the early removal of adenoid obstruction to nasal breathing favors the normal use and consequent expansion of the nasal passages, and lessens very materially the probability of the occurrence of those chronic hypertrophic obstructions within the nose which later make the removal of the adenoids ineffective in restoring nasal breathing. He believes that the view of the rhinologists, that conditions other than the adenoid are responsible for a large proportion of the mouth-breathers, is due to the late age at which they see these patients, and that the opportunity to operate more frequently during the first and second years would soon cause a modification of their views.

Nor does our interest and supervision cease when the child passes from the home to the school, or, in the case of the less fortunate, to the workshop or the factory. Behind the educator, the inspector and the reformer, stands the pediatrist, who, from his more intimate knowledge of the child's development and limitations, directs their enlightened efforts for the betterment of conditions in these fields.

I have endeavored to outline briefly in the foregoing remarks the lamentable results of neglect, and the enormous opportunities of the pediatrist if he exerts a wise control over the growing organism of the child. The trite phrase that "as the twig is bent, the tree's inclined," had never truer application than to the youthful body. Pediatrics has reduced to a science this formative period of human life. Endless possibilities pertain to the conscientious application of our knowledge.

Extensive as is the debt which we owe to the laboratory and to the co-operation of other specialties, gratefully as we acknowledge their aid in combating disease and in insuring to the rising generation a better equipment for their struggle, nevertheless, the earliest and the ultimate responsibility falls on the children's physician, for to his hands they are confided by their parents, and on his judgment reliance is placed, not only to deal with the present, but to detect and remedy conditions and tendencies ere they assume a harmful or serious phase.

807 Madison Avenue.

THE NOGUCHI SERUM REACTION FOR SYPHILIS AS AN AID TO DIAGNOIS IN EYE LESIONS*

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The serum diagnosis of syphilis as given to the world by Wassermann, Neisser and Brück[1] in 1906, has now become a well-established diagnostic method, generally used in all medical centers, and has proved of value in all fields of medicine.

The Wassermann method is an adaptation of the Bordet-Gengou phenomenon of complement deviation, in which the hemolytic system consists of a suspension of washed red blood cells of the sheep, hemolytic amboceptor made by immunizing rabbits to sheep's red blood cells, and as complement fresh guinea-pig serum. For syphilitic antibody the serum from suspected patients is used, and for antigen a watery extract of a liver of congenital syphilis known to be rich in *Spirochæta pallida.*

It has been pointed out that there is one factor of error in this method due to the fact that there is in human serum a variable amount of natural antisheep amboceptor which tends to produce hemolysis and hence a negative reaction in the presence of the smaller amounts of syphilitic antibody. To avoid this error Noguchi[2] has proposed a change in the hemolytic system. His modification consists in using human red blood cells, with antihuman serum from rabbits, instead of sheep's cells and hemolytic serum from rabbits as used by Wassermann. By the use of this antihuman hemolytic system the variable antisheep amboceptor of human serum is eliminated as a disturbing factor. Noguchi has also found it possible to prepare antigen, antihuman hemolytic amboceptor and guinea-pig complement, in the form of reagent papers which remain fairly stable so long as kept perfectly dry, thus simplifying the method without any sacrifice in accuracy. His views regarding the use of complement dried in paper have been modified within the past few months and now he considers it advisable to use the liquid complement whenever possible, the use of complement in paper to be reserved for emergencies.

The technic of the test is described in detail in Noguchi's work[3] and is quoted in brief as follows:

> Only about 2 c.c. of the patient's blood is needed and this may be obtained by puncturing the index-finger or lobe of the ear and collecting the blood in a small glass tube. The blood-clots and the serum separate in a few hours at room temperature. If the test is not to be made within two or three days the serum should be drawn off with a capillary pipette for storage.
>
> The corpuscle suspension can be prepared with the blood of a normal person. The blood is allowed to drop into a test-tube of salt solution. The proportion should be one drop for each 4 c.c. The quantity of the suspension thus prepared is enough for one complete test, with some left over in case it is necessary to repeat the test. The suspension must be allowed to stand over night in a cool place; or is centrifugalized soon after collection, to separate the cells. The supernatant fluid is carefully poured off and replaced with a fresh salt solution and a suspension made by shaking. This operation removes the serum constituents, and especially the fibrin ferment, which often disturb the test. A 1 per cent. suspension of the washed corpuscles should be used.
>
> To facilitate the carrying out of the test a rack containing two rows of holes for the tubes should be used. For each test two tubes are required, one in the front row and its control in the rear row. There will also be two pairs of tubes to serve as positive and negative controls.
>
> Put into each of two small test-tubes, front and rear, one drop (about 0.02 c.c.) of the serum to be tested from a capillary pipette. Add to each tube 0.1 c.c. of 40 per cent. fresh guinea-pig serum made by adding 1 part of complement to 1½ parts of 0.9 per cent. salt solution. In an emergency or where fresh complement cannot be obtained dried slips of paper, each containing two units of complement, may be substituted. To the front tube add the slip bearing the antigen. Then to both tubes add 1 c.c. of the 1 per cent. suspension of washed human corpuscles. Shake the tubes thoroughly from time to time to distribute the reagents evenly throughout the mixture as they dissolve out of the paper.
>
> With every series of tests it is necessary to carry out two sets of controls, and for this purpose four additional tubes will be necessary. To each of the first pair of these, one in the front and one in the rear row, is added one capillary drop of a syphilitic serum known to give a positive reaction. This will serve as a positive control. To the second pair add one drop of normal serum known to give a negative reaction; or the tubes may be left empty. This pair of tubes will serve as a negative control. Now put into each tube complement and into the tubes of the front row only antigen, adding finally 1 c.c. of the corpuscle suspension to each tube.
>
> Place the rack holding these pairs of tubes in a water-bath, thermostat, or warm place not over 37 C. The vest-pocket is warm enough and convenient in an emergency when none of the above is at hand. Allow an hour from the time the mixture is made for the antibody to combine with the antigen and for complement to be fixed. If a water-bath is used, thirty minutes is a sufficient length of time. If dried paper complement

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Wassermann, Neisser and Brück: Deutsch. med. Wchnschr., 1906, xxxii, 745.

[2] Noguchi: A New and Simple Method for the Serum Diagnosis of Syphilis, Jour. Exper. Med., 1909, xi, 392.

[3] Noguchi: Serum Diagnosis of Syphilis, J. B. Lippincott, 1910

is used this period of incubation should be extended to twice as long as is the case when liquid complement is used. The contents of the tube are as follows:

Rear: Test serum + complm. (2 units) + 0 + corpuscle susp. 1 c.c.

Front: Test serum + complm. (2 units) + antigen + corpuscle susp. 1 c.c.

First incubation at 37 C. for one hour; then add to each tube, both front and rear, a slip bearing two units of amboceptor. Allow another two hours in the thermostat or one hour in water-bath. After final incubation the tubes should be kept at room temperature for a few hours before the results are recorded.

It is necessary to make certain that the tests in the control sets have been properly carried out. The pair of tubes containing normal serum (or without any serum) must be completely hemolyzed. These constitute the negative controls and show that the hemolytic system used is effective, and that the amount of antigen used is not by itself inhibitory of hemolysis. Next, the front tube of the positive control set, containing a known syphilitic serum, must show total inhibition of hemolysis, while the rear tube must show complete hemolysis. Thus we are certain by the rear tube that the syphilitic serum itself does not inhibit hemolysis, while the front tube, in which hemolysis is inhibited, shows the ability of syphilitic antibody to fix complement in the presence of the antigen employed.

These essentials having been fulfilled, the tubes containing serum for diagnosis can be scrutinized. In these tests hemolysis must be complete in the rear row, since antigen is not present and the amount of serum used should not be inhibitory. Should hemolysis be inhibited markedly, showing usually an anticomplementary action on the part of the patient's serum, this may be overcome by "inactivation" of the serum for thirty minutes at 56 C. (before commencing), after which it will be necessary to use four to five drops of the serum in the test. The time of inactivation for this purpose may be shortened to fifteen minutes (instead of thirty minutes) and three drops of the serum used in this instance. The anticomplementary action can be overcome also by the use of a larger dose of complement. In case inhibition is only slight in amount, the addition of 0.15 to 0.20 c.c. of a 40 per cent. complement mixture (mentioned already) can be used. The above irregularities are occasionally encountered in the test, especially during the summer months.

The tubes containing the serum for diagnosis and antigen, the front row of tubes, may be examined for final results. Here any degree of hemolysis may be encountered, from total inhibition to complete dissolution of corpuscles, depending on the presence or absence of syphilitic antibodies and the number of antibody units. With complete inhibition of hemolysis, the end reaction is easily interpreted, the corpuscles settling to the bottom of the tube with the clear salt solution above. Complete hemolysis likewise gives a result easy of interpretation, for the corpuscle mass is entirely dissolved, the hemoglobin going into solution and coloring the salt solution a deep reddish color.

By taking into consideration the bulk of corpuscles settling to the bottom of the tube and the amount of tinting of the supernatant salt solution, and by comparison with the positive and negative controls, the varying degrees of inhibition of hemolysis may be ascertained. In interpreting the result complete inhibition of hemolysis comparable with the positive control is called strongly positive; complete hemolysis, comparable with the negative control, is designated as a negative reaction. If 60 to 70 per cent. of the bulk of corpuscles is dissolved the reaction is doubtful and should not be taken into consideration for diagnosis. In a known specific case such slight inhibition should be an indication for further treatment as evidence of the continued presence of syphilitic antibodies in the patient's blood. If there is a faint degree of hemolysis, the main bulk of corpuscles being intact, the reaction should be called positive. A more intense hemolysis, with about 10 to 20 per cent. dissolution of the corpuscle mass, should be called weakly positive, while 30 to 40 per cent. hemolysis is designated as faintly positive. Neither the weakly positive nor the faintly positive reaction should be accepted as a definite diagnosis of syphilis without the presence of strong clinical evidence in favor of such a diagnosis. In case the reaction should be doubtful, the serum should be reexamined after a period of a week has elapsed, and if necessary several examinations in succession should be made. In all cases it is a wise precaution to take the blood for examination shortly before meal-time.

It may be stated here that all human serums gradually become anticomplementary after several days on standing, some more pronouncedly so than others. This change sets in much more rapidly at a higher temperature, such as that of a room, than at a lower temperature, such as that of a refrigerator.

In order to have a positive control test, whenever examining an unknown serum one must always have at hand a syphilitic serum known to give a positive reaction. For this purpose one has to obtain a good specimen, which can be preserved on ice for months. Should such a specimen become too anticomplementary on standing, one can remove this property by heating the serum at 55—56 C. for about fifteen minutes.

The method of titrating the antibody content of syphilitic serum in order to determine the exact strength of each specimen is fully described by Noguchi, as also the manner of preparing slips. Guinea-pig serum is used as complement and this should be used fresh, as after the serum is forty-eight to seventy-two hours old its activity is rapidly lost, even at refrigerator temperature if the serum is kept in a fluid form.

Antihuman hemolytic amboceptor is made by immunizing rabbits against human blood corpuscles. Large rabbits are injected with increasing amounts of washed human blood corpuscles five times in succession intraperitoneally, allowing a four-day or five-day interval between injections. Nine or ten days after the last injection the rabbit may be bled from the carotid artery, the blood collected in a tube and placed at room temperature for several hours before being transferred to the refrigerator. At the end of twenty-four hours the clear serum is collected by decantation and this should be titrated to determine its strength. Different rabbits react differently to amboceptor production and often a weak serum will be obtained after a long immunization, while at other times a powerful serum may be obtained after four injections. A good preparation will have a value of one unit in something less than 0.001 c.c. of serum; that is 0.001 c.c of serum or less will cause complete hemolysis of 1 c.c. of a 1 per cent. suspension of human erythrocytes when combined with an excess of complement, say 0.02 c.c. of fresh guinea-pig's serum.

Noguchi states that alcoholic extracts of certain tissues contain variable quantities of antigen for syphilis. There is more in heart, liver or kidney than in nervous tissues, so far as has been determined. The liver of a congenitally syphilitic fetus is one of the tissues richest in these antigenic lipoids. In the preparation of antigen the procedure is as follows:

> Extract a mashed paste of liver, heart or kidney of man, ox, guinea-pig, rabbit or dog with ten parts of absolute alcohol at 37 C. for several days. Filter through paper and collect the filtrate. Bring the latter to dryness by evaporation, and take up the residue with a small quantity of ether and add five volumes of acetone. A precipitate forms, which is allowed to settle to the bottom of the vessel and the supernatant fluid decanted off. This insoluble residue contains antigenic lipoids and its strength is estimated by taking 0.2 gram of the residue, dissolving it in about 5 c.c. of ether, and gradually adding 100 c.c. of physiologic salt solution to make an emulsion. If flocculent it may be filtered through paper to remove the precipitate. This opalescent emulsion is used for the fixation test to find out the quantity needed to cause complete inhibition of

hemolysis when combined with a good syphilitic serum. Inhibition is caused by the coexistence or simultaneous presence of antigen and syphilis-antibody, and is of diagnostic value. Any quantity of the emulsion which is capable of causing complete fixation may be used for the test, but it is best to choose the maximum dose which is without inherent anticomplementary action.

Noguchi says that his method if properly carried out gives uniform and reliable results; but as the activity of the complement and the resistance of the red corpuscles sometimes vary according to their source and age, certain irregularities sometimes arise, which necessitate a knowledge of how to adjust relatively the quantities of these factors. There are no difficulties that arise which cannot be removed by the proper use of the several reagents, and definite and detailed information concerning the manner of eliminating error is given. Whether the active, old or inactivated serum is used is only a matter of personal choice, provided that the rules prescribed for active and inactive serums are observed.

Concerning the value of the serum test for the diagnosis of syphilitic conditions, Williams[4] states that by combining the figures obtained from numerous investigators comprising over 8,000 tests, an average of 75 per cent. positive reactions were obtained in all cases of hereditary and acquired syphilis. He has tabulated the results, which are given in Table 1.

TABLE 1.—POSITIVE REACTIONS IN 8,000 CASES OF HEREDITARY AND ACQUIRED SYPHILIS (WILLIAMS)

Stage of Disease.	% Positive.
Primary syphilis.	70
Secondary syphilis	89
Tertiary syphilis	78
Early latent (late secondary symptoms)	51
Late latent (following tertiary symptoms)	47
Hereditary syphilis	95
Cerebrospinal syphilis	48
General paralysis	88
Tabes	63

Taking into consideration the fact that this includes tests made by various methods, some of which have been proved to be open to considerable error, it would seem that the value of the serum reaction has been thoroughly demonstrated.

Noguchi's method seems to be a distinct improvement over that of Wassermann or any of the other methods proposed for the reason that it is not so complicated and cumbersome; and the statistics seem to show that it is more accurate and more delicate. Thus, in a comparison of the Wassermann and Noguchi systems in 244 cases of syphilis and parasyphilitic conditions, as reported by Noguchi[3], the Wassermann system gave 183 and the Noguchi 211 positive reactions. Noguchi further states that in a series of 1,082 cases examined, in which there were a number of syphilis suspects, 802 positive reactions with the Noguchi test were obtained.

In a comparison of the Wassermann and Noguchi systems Fox[6] reports 210 cases examined with the percentages of positive reactions favorable to the Noguchi test. This series of cases included primary, secondary, tertiary, latent and hereditary syphilis, tabes, cases for diagnosis and non-syphilitic cases. In primary syphilis both the Wassermann and Noguchi tests showed 100 per cent. of positive reactions. In secondary syphilis the percentages of reactions were, Wassermann 97 per cent., Noguchi 100 per cent., in tertiary syphilis, Wassermann 71 per cent., Noguchi 84 per cent.; in latent syphilis, Wassermann 46 per cent., Noguchi 62 per cent.; in hereditary syphilis, Wassermann 100 per cent., Noguchi 100 per cent. (only one case reported); in tabes Wassermann 100 per cent., Noguchi 100 per cent. (three cases reported); cases for diagnosis, Wassermann 39 per cent., Noguchi 49 per cent. (53 cases reported). Of non-syphilitic cases, 2 cases out of 23 gave a positive reaction by Wassermann while 4 gave a positive reaction by the Noguchi test. One of these cases was afterward examined by Noguchi and gave a negative reaction.

In a similar series of cases reported by Kaplan,[7] out of 1,286 cases examined the positive reactions by the Wassermann test were 826 and by the Noguchi test 995.

Swift[8] in a carefully prepared article on "A Comparative Study of Serum Diagnosis in Syphilis," accompanied by numerous tables showing the number and kind of cases in which the serum diagnosis was tried, concludes that the Noguchi reaction is more readily applied and the materials are more easily procured and kept than with the Wassermann method. It is also more sensitive than the Wassermann reaction, though this increased sensitiveness sometimes causes a positive reaction with non-specific serums which gave a negative Wassermann reaction. Noguchi, however, states that these positive reactions with non-specific serum may be avoided by the use of inactive serum, and further that when one obtains a high percentage of positive reactions in non-syphilitic cases one should suspect that one is not doing the test properly.

Numerous investigators have attempted to determine the result of various forms of treatment on the syphilitic antibodies in the blood. It is known that the reaction frequently disappears after a short course of treatment, often to return again within a greater or lesser period of time. In some cases a positive reaction frequently persists in spite of treatment, and Noguchi states that in hereditary lues the reaction is difficult to get rid of, often persisting in spite of most vigorous interference. Frequent tests are necessary to determine whether further therapeusis is indicated. A positive reaction in a syphilitic case is an indication for additional treatment though it is not definitely established that the disappearance of the reaction is justification for the cessation of treatment.

It having been definitely established that by the serum test we are able to diagnose syphilis with more or less certainty, it is clearly evident that the test is going to prove of inestimable value to the ophthalmologist who constantly sees many cases of doubtful syphilitic origin. The method is used not only for the diagnosis of syphilis primarily but also as a guide to determine when treatment may be discontinued, or whether it should be resumed.

Up to the present time the reports do not show many eye cases in which the test has been used, though it is possible that some of the statistics in which the cases are grouped under the various types of syphilis may include some eye lesions. Noguchi reports only 29 cases of eye diseases in which his test was employed, and his table is here reproduced (see next page, Table 2).

In this series of cases it will be seen that nearly 50 per cent. of positive reactions were obtained. No reference is made to syphilitic history or the possible effect of treatment in causing a negative reaction in a case of syphilitic origin. Thus out of twelve cases of interstitial keratitis, which in a very large percentage of instances is of syphilitic origin, but eight positive reactions were secured. It would be interesting to know whether any of these negative reactions occurred in patients reasonably free from the possibility of syphilitic infection or whether treatment had anything to do with the results secured from the test.

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[4] Williams: The Serum Diagnosis of Syphilis, Colorado Med., April, 1910.

[6] Fox: Jour. Cutan. Dis., 1909, xxvii, 338.

[7] Kaplan: Comparison of Noguchi and Wassermann Reactions. Table taken from Noguchi's Serum Diagnosis of Syphilis, 1910.

[8] Swift, H. F.: A Comparative Study of Serum Diagnosis in Syphilis, Arch. Int. Med., October, 1909, iv, 376.

TABLE 2.—CASES OF EYE DISEASES TESTED BY NOGUCHI BY HIS METHOD

	Cases Examined	+	—	±
Keratitis interstitialis	12	8	4	0
Iritis	6	4	2	0
Scleritis	1	0	1	0
Paralysis external rectus	1	0	1	0
Optic neuritis	1	1	0	0
Chorioiditis (exudative)	1	0	1	0
Optic atrophy	5	0	5	0
Acromegaly with ocular symptoms	2	1	1	0
Totals	29	14	15	0

From Dr. Swift's tables I have been able to select ten cases of eye diseases in which the data is more complete. They may be arranged as in Table 3.

An analysis of these cases shows only one negative reaction by the Noguchi test, which was also negative with the Wassermann test, and this case was one of ocular palsy accompanied by blindness, of questionable syphilitic history though the patient had had much antisyphilitic treatment for two years previous to the test. It is probable that the negative reaction in this case was due to the treatment, and that earlier in the history of the case the reaction would have been positive. In one case of iritis, with papular eruption, the initial lesion having been six months before the test, the Wassermann reaction was negative and the Noguchi reaction was decidedly positive. In the case of optic atrophy and blindness, in which syphilitic infection was denied, the Wassermann reaction was questionable, and the Noguchi reaction was weakly positive. Of particular interest are the four cases in which the history of infection is indefinite or infection is positively denied, and the lesion is doubtfully syphilitic from clinical symptoms and manifestations. In three of these cases the Noguchi reaction is positive and in the one that is negative the patient had much treatment for two years preceding the test. In all of the other cases there was a history of infection leading to the supposition that unless the patient had had much treatment the Noguchi reaction would be positive.

TABLE 3.—SWIFT'S CASES OF EYE DISEASES TESTED BY THE WASSERMANN AND NOGUCHI REACTIONS

Time Since Appearance of First Symptoms	Present Manifestations	Treatment	Wassermann	Noguchi
Four months.	Maculopapular; iritis.	6 weeks bichlorid pills.	+	+
Three months.	Papular; iritis.	Eighteen inunctions.	++	++
Five months.	Iritis.	Four months.	+	+
Two years.	Conjunctivitis.	Fair.	+	++
Six months.	Papular; iritis.	Poorly.	—	++
Three years.	Iritis.	None.	++	+
Denied.	Keratitis, myositis.	None.	+	+
Denied.	Optic atrophy; blindness.	Not stated.	+—	+
Indefinite.	Ocular palsy; blindness.	Much in past two years.	—	—
Denied.	Syphilitic iritis.	Little.	++	++

With a view to determining the clinical value of the serum test for syphilis in eye diseases and especially those of doubtful etiology I took up the work several months ago and in carrying it on I have had the cooperation of my assistant, Dr. Norma B. Elles, and of Dr. C. G. Beall, to whom I am indebted for valuable assistance. Owing to the difficulties encountered in satisfactorily carrying out the test and eliminating the commoner errors in technic bound to occur at first, it was only recently that our results have been considered in any sense reliable. It is frankly admitted that the absolute accuracy of the reported findings may be questioned on the ground that errors in technic are more likely to occur with those who are not specially skilled in hemolytic work, and who have not had the advantage of a long and varied experience. But in view of the scarcity of literature concerning the value of the tests in eye diseases I have thought our results in a limited number of cases worthy of report, though it is hoped that a subsequent report covering a very much larger number of cases, and reviewing the results secured by others, will throw still further light on what, it seems, must eventually be one of the most important diagnostic means at the hands of the ophthalmologist for diagnosing eye lesions of questionable syphilitic etiology.

In all of the tests, only a portion of which are reported, fresh guinea-pig serum was used as complement. The amboceptor, consisting of the serum from immunized rabbits, was obtained from the laboratory of the Memorial Institute for Infectious Diseases, Chicago, though in some of the tests amboceptor slips which originally came from Dr. Noguchi, of the Rockefeller Institute, were used. Our antigen, made from the alcoholic extract of the liver of a congenitally syphilitic fetus, was also obtained in the form of antigen slips which had been carefully standardized.

Unfortunately the first tests, consisting of a number of cases, proved worthless owing to a poor quality of antigen, as well as one which had not been carefully prepared and standardized. In consequence some of these cases were either lost sight of when we finally got the tests working satisfactorily, or treatment modified the result. The ear, nose and throat cases, which were also studied in connection with the eye cases, are not considered in this paper.

The cases, with condensed history and results of test recorded, are given in Table 4.

An analysis of these cases shows that of the thirteen positive reactions ten were in patients giving no definite history of syphilitic infection, and only two of the eight showed other than eye lesions to indicate syphilitic infection. Seven of the number had received antisyphilitic treatment and probably to the treatment may be attributed some of the weak positive reactions secured.

Of the thirteen negative reactions six were in patients who gave no history of syphilitic infection and received no antisyphilitic treatment. One patient (Case 12) denied infection but presented many evidences of secondary manifestations of the disease and was kept on mercurial inunctions for a period of two years previous to the test and constantly improved under the treatment. She gave a negative Noguchi reaction and no doubt the vigorous mercurial treatment and absence of active syphilitic lesions prevented a positive reaction. The same is true of Patient 26.

The four patients giving a history of syphilitic infection and treatment of the same probably gave negative Noguchi reactions because of the effect of the treatment. The lesions existing at the time of the tests were probably not syphilitic.

The patients suffering from or having suffered from interstitial keratitis would be expected to be syphilitic, and hence the Noguchi reaction in such cases would be positive except for the inhibiting influence of the treatment. The test in those cases, therefore, would be essentially valuable as indicating whether or not treatment should be discontinued or resumed.

TABLE 4.—AUTHOR'S CASES TESTED BY THE NOGUCHI METHOD

No.	Sex	Age	History of Infection	Manifestations	Treatment Before Test	Noguchi Reaction
1	F	34	Indefinite	Ectopia lentis. Opacities cornea due to old interstitial keratitis.	Some treatment for congenital syphilis.	—
2	F	14	Congenital	Interstitial keratitis. Numerous scars at corner of mouth and on face. Saddle-nose.	Much treatment for inherited syphilis.	—
3	F	20	Congenital	Old adhesions of the iris. Blepharitis. Interstitial keratitis.	Now taking antisyphilitic treatment. (Mercury.)	+
4	F	17	Congenital	Hutchinson teeth and other signs of congenital syphilis. Opacities of cornea. No active lesions.	Much antisyphilitic treatment.	—
5	M	13	Congenital	Granular conjunctivitis. Ulcer of the cornea.	Unknown.	—
6	F	21	Indefinite	Argyll-Robertson pupil and optic atrophy.	None.	+++
7	M	15	Indefinite	Scars of cornea. Adhesions iris. Nystagmus.	Questionable antisyphilitic treatment.	—
8	M	15	Questionable	Scars on cornea. Active phlyctenular conjunctivitis et iritis.	None.	++
9	F	14	Congenital	Saddle-nose. Scars corner of mouth. Interstitial keratitis 1 year ago.	Mercurials for several weeks 1 year ago.	++
10	F	26	Questionable	Neuroretinitis.	None.	++
11	M	40	Indefinite	Paralysis sixth nerve.	None (after a month's mercurial inunctions Noguchi reaction + ; after two months' treatment still +).	+++
12	F	29	Denied	Maculopapular eruption; ulceration of pharynx and nose, and iritis two years ago. Old adhesions iris. Active cornea[illegible]	Two years of active mercurial treatment (inunctions).	—
13	M	18	None	Hemorrhage into vitreous [illegible] endarteritis right eye [illegible] dust-like opacities in vitreous.	None (after a month's mercurial treatment and pilocarpin sweats Noguchi reaction +).	++
14	M	8	None	Interstitial keratitis one year ago. Ulceration tonsil and pharynx six months ago, smears from which showed *Spirochæta pallida*.	Mercury inunctions irregularly for one year. (After one month's continuous mercurial inunctions and injections Noguchi reaction +).	+++
15	F	60	None	Third nerve paralysis. Neuroretinitis.	Mixed treatment and pilocarpin sweats for a week.	+
16	M	38	None	Central leukoma. Active iritis.	None.	—
17	M	25	None	Iridocyclitis.	None.	—
18	F	24	None	Old adhesions and exudate closing pupil left eye. Active iritis right eye.	None.	—
19	F	64	None	Neuroretinitis and floating opacities in vitreous both eyes.	None.	—
20	M	31	None	Repeated hemorrhages in vitreous left eye for three years. Slight hemorrhages vitreous right eye. Obliterating endarteritis and hemorrhages in retina right eye.	K. I. irregularly for several months. Mercury for past few days.	+
21	F	35	Indefinite	Two attacks iritis in last six years. Mild attack iritis within last two weeks. History of two miscarriages.	Unknown.	+
22	F	47	None	Active episcleritis.	None.	—
23	F	31	Denied	Active ulceration nasal septum and iritis eight years ago. Return of ulceration two years ago. Iritis and interstitial keratitis now.	Active mercurial treatment for three years. Six months of mixed treatment two years ago.	+++
24	M	54	None	Repeated subconjunctival hemorrhages both eyes for past three years.	Unknown. Probably antisyphilitic from description.	+
25	F	52	*Indefinite*	*Aphasia* and one-sided sensory paralysis and partial motor paralysis. Few small spots of disseminated chorioiditis. History of one miscarriage.	Inunctions and large doses K. I. for six weeks. (Has recovered from aphasia and paralysis.)	—
26	F	50	*Negative*	Large syphilitic ulcer left tonsil, smears from which showed *Spirochæta pallida* nine months ago. *Old disseminated chorioiditis right eye.*	Almost continuous inunctions for eight months.	—

In the cases of iritis, except Case 23 (neuroretinitis, hemorrhages into the vitreous, and paralysis of eye muscles) there was no obtainable syphilitic history, no lesions other than those in the eye, and the cause was questionable. The serum reaction was considered satisfactory in determining the possibility of syphilitic etiology, and the results of subsequent treatment seem to establish the reliability of the findings. Thus in Case 11 the test was strongly positive and active antisyphilitic treatment not only produced marked improvement in the eye lesion but probably was responsible for a weakly positive reaction six weeks later. In Case 12, with unquestioned syphilitic lesions, and under active mercurial treatment for two years, the reaction was negative. This is considered an indication for cessation of treatment. Tests will be given later to determine whether treatment should be resumed. The active corneal ulcerations are considered as due to the effects of cicatricial changes in the lids, producing mechanical irritation, and the introduction of non-syphilitic infection. Case 14, with no active lesion, is considered as requiring more antisyphilitic treatment owing to the positive Noguchi reaction. Case 18 is one that ordinarily would be diagnosed as syphilitic iritis, but the Noguchi reaction was negative and the patient promptly recovered on treatment other than antisyphilitic.

Various writers have asserted that the reaction frequently disappears after a short course of treatment, often to return again within a greater or lesser period of time. This would seem to be borne out by the results secured in the cases reported by Noguchi, Brück, Citron, Swift and others. In our cases treatment very evidently tended to cause a disappearance of the reaction, and those patients who had received considerable antisyphilitic treatment and exhibited no active lesions at the time of the test, showed a negative reaction. Positive reactions were reduced to weakly positive following active mercurial treatment. Whether a positive reaction will be obtained in these cases later, after an interval of rest in treatment, will be determined later. Noguchi says that in hereditary lues the reaction is difficult to get rid of, often persisting in spite of the most vigorous interference. In several of our cases of congenital syphilis we secured a negative reaction which was thought to be due to the inhibitory action of treatment. Noguchi also says that the reaction may return shortly after cessation of treatment, so that it may be necessary to make frequent tests to determine whether further therapeusis is indicated. But he admits that it is not definitely established that the disappearance of the reaction justifies stopping treatment, especially as the reaction may be quickly affected by treatment.

In conclusion it may be said that the reaction is destined to be of value to the ophthalmologist as an aid in making a diagnosis, particularly in cases of doubtful origin, and also as a guide to selection of therapeutic measures. But to be reliable and hence of most value the test should be applied to those cases of which a reasonable complete history has been obtained; the reagents employed should be prepared in an accurate and careful manner: the technic as advocated by Noguchi and others should be accurately followed; and the interpretation of the results considered in the light of the experience and skill with which the tests have been made. The reactions should be verified, and control tests should be introduced as often as possible. Furthermore, all things being equal, the results will be most reliable and hence most valuable when done by those with facilities and training for hemolytic work.

ABSTRACT OF DISCUSSION

Dr. E. V. L. Brown, Chicago: One recent article in regard to this reaction might be quoted, namely, that of Alfred Leber, of Berlin, which covers some 300 cases of the Wassermann reaction. Many of the data coïncide with those of Dr. Bulson: for instance, 231 cases of eye diseases suspicious of syphilis gave a positive reaction in 40 per cent.; 71 cases of certain syphilis gave 79 per cent. of positive reactions; 22 cases of eye disease with metasyphilitic diseases, tabes, general paralysis and lues cerebri gave 82 per cent. of positive reactions. In 90 per cent. of 59 cases of hereditary eye lues there was a positive reaction. There were 82 cases of keratitis parenchymatosa, and of these 74 per cent. were positive. These included 63 per cent. of acquired and 11 per cent. of hereditary syphilis. In general, Leber states that the reaction is negative in 10 to 20 per cent. of syphilitic patients who have not been treated, and in 30 or 40 per cent. of those who have been treated. This very definitely restricts the application of the test. Leber has devised a complement deviation reaction for tuberculosis similar to the Wassermann reaction for syphilis. The technic is even more difficult than the Wassermann.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: The statistics quoted by Dr. Brown apply to the Wassermann reaction, while my paper is a consideration of the Noguchi reaction. I have reported comparative studies of the two reactions by competent observers, and the statistics presented seem to show that the Noguchi reaction is more reliable. For instance, in 244 cases of syphilis and parasyphilitic conditions, as reported by Noguchi, the Wassermann gave 183 and the Noguchi 211 positive reactions. In 1,082 patients examined by Noguchi, among whom there were a number of syphilitic suspects, 802 gave positive reactions. In another comparison of 210 cases of various kinds, in which there were a number of nonsyphilitic cases and cases for diagnosis, the percentage of reactions was decidedly favorable to the Noguchi test. The Noguchi test, therefore, seems to be more accurate, and hence of much more value than the Wassermann test; but it must be remembered that the value of the Noguchi test depends in large measure on the virulency of the infection, the stage of the disease, the influence which anti-syphilitic treatment may have had in altering the reaction, the reliability of the materials employed and the care and skill with which they are used, and the manner of interpreting the results.

In the so-called attenuated forms of syphilitic manifestation the Noguchi reaction may be but faintly positive, and the same may be true in the more virulent forms which have been actively treated with anti-syphilitic remedies. In either case the findings are significant as aiding in the diagnosis and indicating the line of treatment to be pursued. The reaction will prove of inestimable value in ophthalmic cases of doubtful etiology, particularly in certain fundus lesions, various ocular paralyses and the uveal disturbances, and in those cases of known syphilitic origin in which it is desired to determine whether antisyphilitic treatment should be resumed or not.

It seems to be proved that the Noguchi test is more delicate and less complicated to employ than the Wassermann, and probably more accurate. Its value, however, will be greater when carried out by one thoroughly familiar with hemolytic work and skilled in laboratory technic. Even then the interpretation of the results of the test will have greater value with added experience in its use. In my series of cases the results of the test, while subject to the possibility of some error, due to unfamiliarity with the work, seemed to point to definite conclusions, and the findings in most of the cases were either verified by the previous history, the character of the lesion, or the effect of the treatment. At a future session I hope to present the results of further study of the test in a much larger number of cases, as also to summarize the results of others who may be carrying on similar work.

THE RELATION OF ANIMAL EXPERIMENTATION TO OUR KNOWLEDGE OF PLAGUE *

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Comparatively few diseases of man are readily transmitted to laboratory animals. In plague, however, we have an infection that can be reproduced in many of the animals ordinarily used for experimental purposes. The question then arises as to whether we know more about this disease than we do about infections that are less readily transmitted to animals, and those that thus far have not been studied in the lower animals. In reply it may be pointed out how much more accurate knowledge we have of the essential cause of plague epidemics than we have of outbreaks of typhoid fever, scarlet fever, measles, typhus fever and others that might be mentioned. When plague is to be combated, there need be no speculation as to the source of the infection. The outbreaking is not to be attributed to such vague and indefinite sources as impure air, a bad water supply, or a mysterious contagious influence; but we know that the problem is the simple and direct one of eliminating the infected rodent. Attention may be called to the fact that, fortified by our knowledge of this disease, much of which has been gained by animal experimentation, we are able to take such effective measures against its spread that, at the present day, plague in a community may be promptly controlled and even eradicated. In substantiation of this statement, the epidemics that have occurred at various times in the past few years in Oporto, Rio Janeiro, Glasgow, Liverpool and other cities abroad, and in San Francisco and Seattle in the United States may be cited. It is not too much to say that without the knowledge of the disease gained from animal experimentation these sanitary victories would not have been won. It is quite true that, even with this knowledge, little can be accomplished unless we have the intelligent assistance and cooperation of the community afflicted. In contrast to the splendid achievements in the cities mentioned we may cite countries where plague annually claims an enormous toll of human life; for example, India, where fanaticism manifests itself in the form of a violent antagonism to the

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* This paper is one of the series prepared for and reprinted by the Council on Defense of Medical Research of the American Medical Association for circulation among the public. Fourteen of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, circulation of the blood, tropical diseases, etc.

sacrificing of lower animals for any purpose, even such a laudable one as the suppression of a disease that on several occasions has claimed over one million victims per year. In China, there is no such antipathy to the taking of life of the lower animals, but there is found an ignorance and apathy most effective in nullifying any efforts looking to an improvement of sanitary conditions and surroundings.

Our knowledge of the cause of plague dates from the work of Yersin[1] and of Kitasato[2] in Hong Kong. These investigators, working independently, discovered the micro-organism that has since come to be universally recognized as the cause of the disease. They isolated the organism from the sick and from the bodies of persons who had died of the disease. The opportunity of reproducing the infection in laboratory animals was requisite to complete the chain of evidence necessary to establish the relation of the germ to the disease.

Prior to the work of the investigators mentioned, epidemics of plague were attributed to telluric and climatic conditions, to soil infection and to other sources. As a result of these erroneous views, intelligent measures looking to the suppression of the disease were impossible. The vigorous quarantines that were inaugurated, by reason of the hardship they inflicted, defeated the very purpose for which they were established.

Since the discovery of the actual causative agent of the disease, *Bacillus pestis,* progress in solving many of the problems has been rapid, and it may be asserted without fear of contradiction that every material advance has been made possible by the facts demonstrated by means of animal experiments. The subject will be considered first in the more important aspect, namely, the infected rodent, by means of which the disease is transferred from place to place and is spread in communities; and second, in relation to the preventing of the infection of individuals and in curing the sick.

RELATION OF RODENTS TO PLAGUE

Prior to the discovery of the organism causing the disease, the association of rat epizootics with outbreaks of human plague had been noted by several observers. That the oft-cited biblical verses,[3] which mention "emerods" and "mice," really referred to the association of plague and rats cannot be demonstrated; and the other early records are also the subject of much difference of opinion. The actual relation between the disease in rodents and that in man, however, had never been established. It was most important to prove this point, and to discover the actual manner in which the disease was spread among the rodents, and if possible, the manner in which man was infected from rodents. To these problems several investigators turned their attention. It is needless to point out that these questions could not be settled without recourse to animal experiments.

The earlier workers had found the plague bacillus in the bodies of insects that had fed on the blood of animals sick of the disease but it remained for Simond[4] to actually convey plague from one animal to another by means of insects (fleas). Simond found that when fleas were placed on a plague-infected rat they drew blood containing the plague bacillus, and that by transferring these infected fleas to a healthy rat the disease could be transmitted. Subsequently certain observers failed to confirm this work, but as is so often demonstrated, one properly controlled positive result is of more value than many negative ones. Simond's work was confirmed by Verjbitski[5] who succeeded in transferring the infection from rodent to rodent by means of fleas and other insects. Verjbitski's results were verified for the most part by the investigators of the Advisory Committee appointed by the Secretary of State for India, the Royal Society and the Lister Institute.[6] By means of an extensive series of experiments these observers found that plague infection would not spread among rats except in the presence of fleas. The same fact was found to hold good in the case of guinea-pigs. In other words, it was found that healthy rats and healthy guinea-pigs might be kept in close contact with plague-sick rodents, but that the disease was never transmitted to the well ones unless fleas were present. While this evidence was of great value in throwing light on the probable mode of transmission of the disease from rodents to man, or possibly from man to man, it was desirable to conduct experiments with animals more closely related to human beings, and for this purpose monkeys were used.[7] The monkeys were placed in cages in such a way as to simulate so far as possible the conditions under which man might be brought in relation to fleas from infected rodents. It was found that it was possible in this manner to convey plague to the monkeys.

Other most instructive and interesting experiments were performed by placing guinea-pigs in houses where plague cases had occurred, or where plague rats had been found. Many such houses were found to be infected as was shown by the fact that the guinea-pigs died of plague, and plague-infected fleas were found on them. In addition to these animal experiments, epidemiologic observations were carried out which together with the laboratory observations go far towards showing that, at least in India, the great majority of cases of plague are due to infection of man from rats through rat fleas.

Part of the work of this committee has been repeated by Kitasato[8] who reaches the conclusion that in Japan in the majority of cases the infection is conveyed in the same way as in India.

It may be thought that the presence of an epidemic among rodents under natural conditions would be manifested by so large a mortality among these animals as at once to make manifest the presence of the disease. Such, however, is not the case; it is exceptional to find a death-rate among the rodents large enough to attract the attention of the casual observer. With the exact knowledge of the mode of the conveyance of the infection and its relation to rats, the lines along which work must be performed to control an epidemic become well defined.

The demonstration of the relation of the disease in man to that in the rat, and the mode of conveyance from the latter to the former, explain many of the facts long known about plague epidemics such as the lack of contagiousness, the gradual, almost mysterious, spread through a community and through a country.

The measures for the control of a plague epidemic do not come within the scope of this paper, but we may state that they are essentially the ridding of a community of infected rats. We may be pardoned for emphasizing here what has been so often pointed out, that plague is not a "filth disease" in the ordinary sense of the term. Plague in human beings is definitely associated with the same disease in rodents, and ordinary sanitary measures have comparatively little influence on its spread. It can be controlled and prevented only by measures directed to the actual cause, the infected rodents.

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[1] Yersin: Ann. de l'Inst. Pasteur, 1894, viii, 662.

[2] Kitasato: Lancet, London, 1894, ii, 428.

[3] 1 Samuel, vi, 5-11.

[4] Simond: Ann. de l'Inst. Pasteur, 1898, xii, 625.

[5] Verjbitski: Transl. in Jour. Hyg., 1908, viii, 162.

[6] Jour. Hyg., 1906, vi, 421.

[7] Jour. Hyg., 1906, vi, 464; 1907, vii, 432.

[8] Kitasato: Ztschr. f. Hyg. u. Infektionskr., Nov. 26, 1908, p. 279.

What has been said thus far refers particularly to the bubonic type of plague, which is by far the most common in all epidemics and in all countries. The pneumonic type of the infection is also very important, especially for the reason that it is directly contagious from person to person, and has claimed many physicians and nurses for its victims. This type of the disease was described by the German plague commission[9] and by Childe[10] and its origin traced to the same micro-organism that is responsible for the more common bubonic type. It would have been impossible to prove that the pneumonic form of the disease was due to the plague bacillus but for the valuable assistance rendered by the methods of animal inoculation. Only less important than the relation of rat plague to human plague is the relation of plague in ground-squirrels to the same disease in man. This is especially true in America, for it is established beyond question that cases of plague in human beings have been derived from ground-squirrel infection.[11] It would have been impossible to prove the presence of plague among ground-squirrels on the Pacific Coast without resorting to animal experiments. Who would have accepted the diagnosis of squirrel plague had it been based on morphologic and cultural studies alone? Certainly no trained observer and probably no intelligent layman. It has often been found that the demonstration of plague in laboratory animals carries to the mind of the layman a conviction that nothing else will.

In most countries and in most communities the announcement of the presence of plague is a signal for a violent denunciation of those who have discovered or announced the presence of the disease; and if one were compelled to rely on methods of investigation other than the inoculation of animals it is probable that skeptics would never be convinced. It is most gratifying, and an evidence of the rapid progress in sanitary matters, that since the first announcement of plague among ground squirrels on the Pacific coast[12] no voice has been raised to question the diagnosis.

Two methods of inoculating laboratory animals with plague are in common use. The one is by the use of the ordinary hypodermic syringe; the second, usually known as "vaccination" or Kolle's method, requires simply the shaving of the skin and the rubbing of the suspected tissue or culture on the shaven area. Neither method is painful.

Now as to the use of laboratory animals in establishing the diagnosis of plague in persons or in rodents: In the majority of cases of plague a probable diagnosis can usually be made by clinical and microscopic methods; but in other cases it is necessary to resort to animal inoculations. Especially in the case of plague in rodents, resort to animal tests frequently becomes indispensable, as the tissues are apt to be invaded by other micro-organisms which speedily outgrow the plague bacillus so that methods other than the inoculation of animals are likely to fail. It is obvious that in order that measures looking to the protection of persons may be taken, a positive diagnosis is essential.

Animal experimentation is the only means at our disposal for determining the species that are susceptible to the disease, and thus learning which animals must be regarded with suspicion and which may be eliminated from consideration as possible agents in spreading the disease. This may be illustrated by two examples:

The first relates to the gopher; a very common rodent. When the squirrel-plague campaign was begun on the Pacific coast, the question arose as to whether it was necessary to destroy gophers as well as ground-squirrels. As a result of certain experiments that had previously been made with gophers at the Plague Laboratory, it was proved that the susceptibility of these rodents was so slight as to make it unlikely that any measures would need to be taken against them. Thus the lives of many of the little animals were spared without in any way lessening the value of the work from a sanitary point of view. It is only fair to say that farmers probably would have been much better satisfied had we not intervened in behalf of the little nuisances that are so destructive to certain crops.

Another field of usefulness of animal experimentation in relation to plague is illustrated by the following: In 1903, Simpson, a well-known student of the disease, made the assertion that the domestic animals and fowls found in Hong Kong, the meat of which was used for food, were susceptible to plague infection, and in his opinion constituted a possible source of danger. The determination of the facts in the case was obviously a matter of the greatest importance, and other workers took up the subject with the result that Simpson's findings were discredited[13] and a source of confusion and error was eliminated. It would have been out of the question to disprove definitely the erroneous statements without recourse to animal experiments.

Another field of usefulness of animal investigation in relation to plague is the search for a biologic agent that will cause an epizootic among rodents that will exterminate these pests but will not harm human beings or useful domestic animals. Unfortunately, up to the present time nothing fulfilling the requirements has been found. The usefulness of such agents can be determined only by conducting feeding experiments with rats and other rodents. The layman is very likely to be misled by the glowing advertisements of the biologic products that are on the market, and if they are used on a large scale with unfavorable results, a false sense of security is engendered and money is wasted that could have been spent profitably in other ways.

In the consideration of the relation of animal experimentation to the plague question, one must never lose sight of the fact that large numbers of rodents suffer from the disease in nature, and it is certainly no exaggeration to say that for each rat, guinea-pig or squirrel that has succumbed to the disease as a result of experimental inoculations, thousands of rodents have died of the same disease under natural conditions. The animal infected in the laboratory dies in peace and perhaps has his sufferings cut short by the merciful use of an anesthetic, while his brother infected in the ordinary course of events in nature is very apt to have his sufferings cut short only by the less merciful attentions of his cannibalistic comrades.

To follow to a logical conclusion the doctrine that animals should not suffer for the benefit of mankind would effectually put an end to the warfare against rodents; not only that conducted as a measure against disease, but as well that conducted by almost everyone on purely economic grounds. Traps and poisons are not merciful in their effects, and those who deplore the sacrifice of animal life made necessary by the advance of science would probably not hesitate to take measures looking to the destruction of the rat that has the pantry or the granary for the field of his activities.

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[9] Deutsch. med Wchnschr., 1897, xxiii, 301.

[10] Childe: Brit. Med. Jour., 1897, i, 1215.

[11] Jour. Infect. Dis., Dec. 18, 1908, p. 485; Pub. Health Rep., Jan. 14, 1909, p. 27.

[12] Pub. Health Rep., Sept. 11, 1908, p. 1289.

[13] Jour. Hyg., 1908, viii, 209.

PROPHYLAXIS AND TREATMENT

The matter of prophylactic measures that may be used to prevent plague infection or reduce the liability to it are clearly of great importance. The question of artificial immunization to plague is a subject that has received the attention of a number of observers. Haffkine's work along this line has given us a valuable weapon in the combating of plague. He injects killed cultures of the plague bacillus into persons with the object of creating a degree of immunity to the disease that would enable one to resist the invasion of the infecting organism. The method has been widely used in India and less extensively elsewhere. There is some difference of opinion as to the value of the procedure, but there is a very general agreement that no harm is done when the prophylactic is used with proper care. An unfortunate accident which occurred in connection with the use of Haffkine's prophylactic has materially interfered with its wider use. This accident was the infection of a number of persons with tetanus at the time of inoculation. The matter was made the subject of a rigid investigation and the evidence indicated that the tetanus was due to the accidental contamination of a vial of the prophylactic while the latter was being prepared for use by a native assistant. Even had the accident been due to the improper preparation of the agent it simply would have pointed out the necessity for the utmost care in the manufacture of the prophylactic.

Haffkine and Bannerman[14] in reviewing the work with Haffkine's prophylactic show clearly that there is a much reduced case incidence among the inoculated, and a startling reduction in the mortality of those in whom inoculation has failed to prevent infection. A particularly striking series of cases reported by Haffkine[15] is that of a large series of numbered prisoners who were confined in a jail where plague prevailed. Those who bore even numbers were inoculated, while those having odd numbers were not inoculated. Among the uninoculated there occurred ten cases of plague, six of which were fatal; while among the inoculated there were three cases, all very mild and all of the patients recovered. Other series of almost equally striking cases might be cited. Forsyth,[16] in an analysis of the figures of many thousands of cases, shows that the plague incidence among the inoculated was less than one-third of that among the uninoculated, while the mortality among those who had received the prophylactic was only 17 per cent.; and among those who had had no previous treatment it was 45 per cent. In other words, the chances of dying of plague were about eight times as great for those who had not received the prophylactic treatment. Numerous other reports of the same tenor might be adduced to demonstrate the value of the measure.

Strong[17] advocates the use of living but attenuated cultures of the plague bacillus for the purpose of immunizing persons. This method has not been largely used, but the evidence that exists is in favor of the procedure.

The whole subject of artificial immunization has been developed in relation to plague as well as in relation to other diseases by means of experiments on lower animals, especially rats and guinea-pigs.

Now let us state very briefly what animal experimentation has enabled us to do for the person actually stricken with the disease. In 1895 Yersin, Calmette and Borrel[18] found that after animals were injected with killed cultures of the plague bacillus, the serum of the animals so treated acquired the power of preventing the development of plague in animals that were simultaneously infected, and in curing animals already sick. The serum for this purpose is now on the market as an article of commerce. It has been used in thousands of cases of the disease in all parts of the world. There is a general agreement of opinion that when administered in sufficient doses and sufficiently early in the disease, it constitutes a very efficient remedy. Unfortunately the cases are rarely diagnosed early enough to give the patient the full benefit of the serum. Chocksy[19] says:

> "Much depends on the early and free use of the serum. In patients injected on the first day or within a few hours of the onset of the symptoms one injection of 100 c.c. followed by another after six to eight hours and then if necessary by a third, after a similar interval would cut short the attack if the case be not pneumonic, malignant or septicemic."

There is very good reason for believing that with the exception of the use of the serum, treatment has scarcely any influence on the course of the infection.

Laboratory animals must be used in the preparation and the testing of prophylactics and the curative serum. No other method is available, and to prohibit animal experimentation would immediately and effectually stop all work and all progress along these lines as well as along other lines of investigation of plague.

CONCLUSION

To review briefly, we may say that in the past by means of animal experimentation there has been demonstrated the cause of plague, the means by which it is conveyed in nature from animal to animal, and from lower animals to man. At the present time we have effective means of controlling outbreaks of the disease, and of curing many of the sick. So much has been accomplished in the past that we may fairly hope that later investigations will still further extend our knowledge of the disease.

If I might be permitted to suggest the lines along which we may expect progress they would be as follows:

1. The discovery of methods of rodent extermination more perfect than those we now have.
2. The development of a prophylactic agent that could be used without inconvenience on a large mass of the population.
3. The preparation of a curative serum, potent enough to make it useful even in late cases of the disease.
4. The discovery of a reliable method of early diagnosis of human cases without awaiting the results of culture and inoculation experiments. This will probably be in the nature of a test similar to the ocular reaction in typhoid fever or the cutaneous reaction in tuberculosis.

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[14] Haffkine and Bannerman: Brit. Med. Jour., 1898, ii, 856.
[15] Haffkine: Brit. Med. Jour., 1899, ii, 11.
[16] Forsyth: Lancet, London, 1903, ii, 1646.
[17] Strong: Philippine Jour. Sc., 1907, ii, 159.
[18] Yersin, Calmette and Borrel: Ann. de l'Inst. Pasteur, 1895, ix, 589.
[19] Quoted by Strong, Philippine Jour. Sc., 1907, ii, 291.

5. The circumstances governing the alterations of virulence of the bacillus.

All progress in the directions indicated will have to come about as a result of experimental work done on lower animals. Will any reasonable person say that this work must be stopped because it requires the sacrifice of even a large number of rodents? Shall the achievements of the past, splendid though they are, be the measure of what we shall know about this disease that claims so many victims and causes such enormous commercial losses? I believe that these questions may be left safely to the judgment of any unbiased person.

THE FILTERING CICATRIX FOR CHRONIC GLAUCOMA

WITH A REPORT OF CASES IN WHICH OPERATION WAS PERFORMED BY THE METHOD OF LAGRANGE *

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Ever since the general acceptance of von Graefe's classical operation of iridectomy as the best operative treatment in the majority of cases of glaucoma, ophthalmic surgeons have observed that, in cases of chronic glaucoma, a more permanent benefit was often obtained in those in which, through some fault in technic, a cystoid scar resulted. Such a scar usually came about as the result of some entanglement or prolapse of shreds or tags of iris, with evidences that the anterior chamber communicated with the cystoid cavities by fistulous tracts. This observation led to deliberate attempts to produce such scars, and some operators advised leaving a bit of iris tissue somewhere in the wound for this purpose. Others, like de Wecker, Priestly-Smith and Critchett, while acknowledging the possible benefits, pointed out the dangers of infection and sympathetic disturbance from this procedure. In spite of this warning, several operators have recently advocated this method of making fistulous cystoid cicatrices, the most radical being Maher,[1] who, after making the usual incision, drags a section of the underlying iris from its attachment and leaves the loop prolapsed, to be cut off several days later, in such a manner as to leave a tag of iris in either corner of the wound. To lessen the danger in such cases, Herbert[2] advised covering the prolapse with a conjunctival flap made at the time of the incision. Holth[3] also tries to minimize the dangers by his new operation called "iridencleisis antiglaucomatosa," which he describes at length with its various incisions and modifications of iris treatment. The modification which he esteems the highest, and which he considers gives the best results, is that of subconjunctival incarceration of iris tissue combined with extrasphincteric iridectomy. He reports some excellent results and clearly establishes the possibility of creating a fistulous passage between the anterior chamber and the subconjunctival spaces with a reasonable amount of certainty. Holth's operation is far safer than Maher's and a step forward, but it remained for Lagrange to work out the possibility of obtaining filtering or fistulous scars free from iris tissue.

Ophthalmic surgeons, who have been accustomed, in operating for cataract, to make their incisions far enough back to get a good conjunctival flap, had noticed that the flap often remained edematous or even bleb like for some time after healing had taken place, and in a few cases, for years after, with the added observation that pressure on the eye would increase the edema or bleb with a decrease in tension and a partial emptying of the anterior chamber. Herbert especially called attention to this, and the explanation is found when one reads McKechnie's[4] most excellent article on the healing of variously placed cataract incisions.

Lagrange[5] reasoned that if this occasional undesirable sequel of flap extraction, with its fistulous communication between the anterior chamber and subconjunctival space, could be brought about in all cases of iridectomy for chronic glaucoma, the likelihood of future increases of tension would be greatly lessened, and the cure produced by the iridectomy made more permanent. The description of the operation which he therefore devised and called sclerecto-iridectomy, with the very excellent cuts, has been repeated so often that it is unnecessary to give a full description here.

Briefly, it consists in a sclerocorneal incision well into the angle of the anterior chamber, with the knife held, in cutting out, with the edge slightly backward so as to bevel the sclera and make a broad conjunctival flap. Then with the conjunctival flap pulled down over the cornea, a portion of the beveled edge of the sclera is cut off with curved scissors, the amount varying with the degree of plus tension, as experience shows that the greater the tension the less the amount necessary to remove. A good iridectomy is then made and the conjunctival flap replaced after all iris tissue has been freed from the angles of the incision. In regard to this latter point, Lagrange holds that his operation has not been properly performed if any entanglement of iris tags occurs. He reported some very encouraging results. I have performed the Lagrange operation now nine times and have not found it especially difficult or very disturbing to the eye, the amount of traumatism being less than one would expect. I find the curved modification of de Wecker's iris scissors the best to cut the beveled sclera.

Herbert,[6] in describing his wedge isolation operation, says:

> The term filtering should be restricted to smooth, even scars, which evidently allow aqueous to pass through them, but which present no dark points which we can accept as fistulous openings. The fact of filtration is shown by the edematous condition of the overlying conjunctiva, and particularly by the fact that pressure on the eye causes a marked increase of this edema, often amounting to a bleb and a marked lowering of the tension of the eye.

This operation I have never tried, as the operation of Lagrange appealed to me as being less complicated and more likely to give a permanent result. Herbert claims that his operation creates a true, filtering cicatrix, but that the operation of Lagrange creates a subconjunctival fistula. Granting that this statement be true, it still would seem to me that a tiny, subconjunctival fistula, or group of fistulas, would be more likely to remain permanent than microscopic filtering spaces in scleral scar tissue.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Maher: Ophth. Rev., July, 1909.

[2] Herbert: Tr. Ophth. Soc. U. Kingdom, June, 1903.

[3] Holth: Ann. d'ocul., May, 1907.

[4] McKechnie: Arch. d'ophth., May, 1909.

[5] Lagrange: Arch. d'ophth., August, 1906.

[6] Herbert: The Filtering Cicatrix in the Treatment of Glaucoma; an Improved Operation, Ophthalmoscope, June, 1907.

[7] Henderson: Ophthalmoscope, December, 1907.

Thomson Henderson,[7] in an article, written from the standpoint of a pathologist, on the so-called filtering cicatrix, described the processes of healing of corneal wounds, especially those made at the limbus, pointing out the fact that "after an incision into the anterior chamber, whatever its position, or method, or formation, the endothelial cells go along with internal margin of the wound and so come to seal it off. Once the growth of endothelium is complete, the wound is no more a filtering cicatrix, but is shut off from the anterior chamber by a layer of new-formed endothelial cells, which proceed to lay down a new homogeneous membrane between the cut surfaces of Descemet's membrane." It is this endothelium that precludes, according to Henderson, all possibility of a permanent filtering cicatrix following any operative incision, however devised. He says in concluding:

> I would emphasize the fact that the success of operation in glaucoma does not lie in a "filtering" wound but in the accompanying iridectomy. The reason of the beneficial and curative action of iridectomy in glaucoma is accounted for by the fact that the cut iris surface, forming the base and pillars of the coloboma, never undergoes any reparative process, but always remains a raw, open wound, as when first severed, so acting as a permanently open filtering area through which the aqueous fluid can drain away. The efficacy of this drainage area depends on the operation being done before atrophy of the iris stroma has progressed too far.

He seems to make out a very clear case against the permanence of the filtering scar as defined by Herbert, but does not disprove the possibility of the fistulization of an iris-free cicatrix. He does not explain away the observation of the several operators who have seen cicatrices, without macroscopic evidences of fistulization, that would allow the emptying of the aqueous into the subconjunctival spaces following pressure on the globe.

Abadie[8] has also expressed a pathologist's disbelief in the filtering cicatrix, asserting that in simple section of the iris must be sought the true remedial agent. He regards it as established that "(1) Lagrange has so far failed to furnish satisfactory proof that simple chronic glaucoma can be cured by sclerectomy; and (2) glaucoma cured by sclerectomy or by iridosclerectomy might equally well have been cured by iridectomy, a simpler and less dangerous operation."

Dr. Doyne[9] reported a favorable case done before the surgeons at the Oxford Congress by Lagrange, but does not mention the ultimate success as to filtration.

Dr. J. E. Weeks[10] presented four cases to the Section on Ophthalmology at New York Academy of Medicine, stating that the operation impressed him favorably.

Thompson[11] presents very clearly and concisely the gist of the controversy on the so-called filtering cicatrix. He says: "Nothing in ophthalmology could well be of greater importance than the [illegible] whether or not an iris-free filtering cicatrix can be made in the corneo-scleral margin, when operating for chronic glaucoma." He then goes on to describe the claims of Herbert and Lagrange, who, by their operations, are trying to establish a permanent path for the passage of aqueous from the anterior chamber into the subconjunctival tissue. He then gives Henderson's views as to the impossibility of making a permanent, iris-free, filtering scar, such as Herbert claims to obtain.

Lagrange[12] steps into the arena again, with a very able defense of his operation. In regard to the cystoid cicatrix, he makes the following very timely remarks: "A cystoid cicatrix, obtained at the price of an entanglement of the iris, is unwelcome and dangerous, and one should aim at creating a cicatrix fully as filtering as the cystoid one, without the uveal tract participating in its formation." He insists on going with the section through the ligamentum pectinatum iridis and dividing the insertion of the ciliary muscle, so as to establish a communication between the lymph spaces of the chorioid and the anterior chamber. He shows that von Graefe and de Wecker both understood the usefulness of the filtering cicatrix, but he gives to de Wecker the credit of having brought into prominence the value of this cicatrix. He also shows that de Wecker was opposed to the entanglement of iris in the efforts to obtain such a cicatrix. He goes on to describe the utility of the filtering cicatrix, and shows that "when it occasionally follows a simple iridectomy it is the result of the hypertension of the eye, and does not occur in chronic glaucoma without this hypertension." In such cases of glaucoma he states that iridectomy has no value, or but a passing one, because the lips of the wound fall into apposition, either immediately after the incision or more or less quickly after the section has been made. "Dieresis must be replaced by exeresis, since by the former it is impossible to produce a definite filtering cicatrix, which, on the contrary, one can get readily by exeresis of the sclerotic." He says:

> My operation of sclerecto-iridectomy has the primary advantage of opening up a communication between the choroidal space, on the one hand, and the aqueous chamber on the other. It satisfied, therefore, the wants of those who believe that chronic glaucoma largely depends on the obliteration of that space. In the second place, it does away with the obstruction of the angle of the anterior chamber, when such exists, and lastly, it establishes a communication between the aqueous chambers and the perichoroidal space and the meshes beneath the conjunctiva.

He describes three varieties of the filtering cicatrix based on the amount of sclera removed and the result of such removal. In the first variety there is the simple thinning of sclera; the second is the so-called subconjunctival fistula; and the third variety, in which there is ampulliform elevation of the conjunctiva added to the fistulization, resembles a cystoid cicatrix, but without the entanglement of iris. Lagrange states that since he began to operate on patients with a view of obtaining this form of the cicatrix he never has seen the least damage result from the operation.

Lagrange,[13] in a communication made to the Paris Ophthalmological Society, reports cases of simple sclerectomy giving successful results, which he considers more convincing proof of the value of the filtering cicatrix than cases of the combined operation, and especially is this true of the cases, like Valude's,[14] yielding good results where a previous simple iridectomy had failed. In concluding, Lagrange advises simple sclerectomy for cases having a tension of + 1 or less, reserving the combined operation for those having a greater tension. Later, Lagrange[15] answers M. Abadie's four objections to the operation of sclerecto-iridectomy, giving the clinical proofs in support of his claims.

Weekers and Heuvelmans[16] demonstrated, by experimentation on the eyes of rabbits, that it was possible to obtain a filtering cicatrix. They concluded from their experiments that it was necessary to excise a portion of

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8. Abadie: Arch. d'ophth., January, 1909.
9. Doyne: Ophthalmoscope, June, 1908.
10. Weeks: Arch. d'ophth., May, 1908.
11. Thompson: Ophthalmoscope, February, 1908.
12. Lagrange: Arch. d'ophth., February, 1908.
13. Lagrange: Arch. d'ophth., August, 1908.
14. Valude: Ann. d'ocul., May, 1908.
15. Lagrange: Arch. d'ophth., November, 1908.
16. Weekers and Heuvelmans: Arch. d'ophth., November, 1909.

the whole thickness of the sclera, and as near the cornea as possible, in order to obtain a fistulous opening. They also state that it is necessary to do an iridectomy in most cases to prevent the inclusion of iris tissue in the opening.

Rochon Duvigneaud,[17] in discussing the Lagrange operation, and describing two cases, insists that the third variety of the Lagrange filtering cicatrix must be obtained if permanent reduction of tension is aimed at, that the simple thinning of the sclera obtained in the first variety is in no sense a filtering area, and that the improvement obtained in cases of chronic glaucoma, having such cicatrices, is due solely to the accompanying iridectomy. Apropos of the first variety of the Langrange cicatrix, Bettremieux[18] has endeavored to lessen the resistance of the sclera by grooving it near the cornea, without opening the anterior chamber.

Holth[19] describes a modification of the Lagrange operation, in which a modified Dr. Vacher punch forceps is used to remove the bit of scleral tissue. He tried taking the rounded piece of scleral tissue from the posterior lip of the wound, but finally decided to follow the method of Lagrange and take it from the anterior lip, using the punch forceps instead of the scissors.

Holth considers that the following three conditions must be fulfilled before an operation for the cure of glaucoma by the production of a fistulous cicatrix can be considered to have answered the purpose for which it was devised. He postpones publication of his results until sufficient time has elapsed to allow of their being fulfilled in a series of cases:

1. There must be conjunctival edema over and around the scleral wound, showing the presence of a subconjunctival fistula.
2. The tension must be constantly normal or subnormal, as shown by the tonometer.
3. For two years after the operation, the visual acuity and fields (which often improve to a marked extent) must not become worse than they were before.

Finally, Holth expresses his opinion that, although the classical iridectomy is still indicated in acute glaucoma, yet Lagrange's idea was a most happy one, and that anterior subconjunctival sclerectomy is destined to be the basis of all the future surgical treatment of chronic glaucoma.

Major Elliott[20] concedes that Herbert and Lagrange have proved their case, but considers that "the operation of Herbert is a difficult and complicated procedure, and that the operation of Lagrange, while less difficult, offers some risks," while the operation he advocates can be easily performed, and without the same risk. Briefly, his operation consists in trephining at the limbus with a 2-mm. trephine, leaving the button in place, or removing it with the trephine or scissors and forceps. In most of his cases the button was removed, and in some, twenty-one out of fifty, a small button of iris was removed. Fifty patients were operated on, and in no case up to the time of publication had the operation failed to relieve tension.

In another article[20] Major Elliott reports four cases showing the evidences of a filtering cicatrix a long time after operation; the first, eighty-six days; the second, three and one-half years; the third, seven and one-half years; and the fourth, ten years. The last two of these appeared to owe their filtration to tiny fistulization. His communication, he states, is simply a preliminary note on a new operative procedure for the establishment of a filtering cicatrix in the treatment of glaucoma. At the December meeting of the New England Ophthalmological Society, Dr. Verhoeff[21] presented a circular punch based on the principle of the bicycle tire punch, which will remove a button of sclera at one or both ends of a sclerocorneal incision, with a minimum of traumatism. He first cuts a conjunctival flap, which is pulled down over the cornea, and a sclerocorneal incision is then made with a keratome. The little rounded guard of the punch is then slipped into the wound, and to one corner, when by screwing down the sharp-edged cylinder, the button is cut and removed with the instrument. A small extrasphincteric iridectomy is then made. Fergus[22] also recommends a similar modification of Lagrange's operation by using the trephine, which is applied far enough back to avoid opening the anterior chamber, to which he adds a modified cyclodialysis obtained by pushing a repositor between the exposed ciliary body and the sclera, until its point comes into the anterior chamber. He has, therefore, modified the operation of Heine rather than that of Lagrange. Stephenson[23] reviews the use of the trephine in the treatment of glaucoma, calling attention to its advocacy by Argyll-Robertson thirty-four years ago, and later by Blanco and Frölich. These operators removed the scleral piece posterior to the ciliary body, while Fergus, Elliott and Verhoeff, now remove the disc from a point nearer to the limbus.

In 1905, Heine brought out his operation of cyclodialysis for the establishment of a passage for the escape of aqueous from the anterior chamber into the suprachorioidal space, and in the discussion of the question of a filtering cicatrix it would seem proper to bring up the question of this operation, which, however, could hardly be compared with the true filtering cicatrix, in that the passage of aqueous into the suprachorioidal space, following cyclodialysis, has been proved to be only temporary. The operation, however, is of value in certain classes of cases in which a sudden emptying, or partial emptying, of the anterior chamber is unwise. In such cases, Heine's operation should not constitute the whole treatment, but should be employed preliminary to a Lagrange, or some of its modifications. It is especially indicated in cases in which there is a high degree of tension with a marked sclerosis of the retinal arteries and consequent danger of hemorrhage, and particularly in those cases in which the fellow eye has been lost by reason of such an accident. Weekers[24] reports on five cases, in which Axenfeld operated after Heine's method, and which gave disappointing results in that the tension fell only to rise again. The operation devised by Fergus may prove to be a modification of the Heine, with the advantage of more permanent results. Fuchs has tried trephining, but operating away from the cornea, and only found that temporary relief was obtained. He has also tried Heine's operation, but has given it up as it did not permanently cure the condition, and as on pathologic examination it was shown that in cases in which cyclodialysis had been performed cicatrization completely occluded the spaces between the anterior chamber and the perichorioidal space. Arnold Knapp[25] reports a number of favorable results following the use of Heine's operation in his hands, but the gen-

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17. Duvigneaud, Rochon: Arch. d'ophth., March, 1908.
18. Bettremieux: Clin. Ophth., August and September, 1907.
19. Holth: Ann. d'ocul., July, 1909.
20. Elliott: Ophthalmoscope, December, 1909.
21. Verhoeff: Ophthalmoscope, March, 1910.
22. Fergus: Ophthalmoscope, February, 1910.
23. Stephenson: Ophthalmoscope, February, 1910.
24. Weekers: Klin. Monatsbl. f. Augenh., August-September, 1907.
25. Knapp, Arnold: The Operative Treatment of Glaucoma by Cyclodialysis, The Journal A. M. A., Sept. 4, 1909, liii, 765.

eral opinion of surgeons who have tried the operation seems to be that it is not permanent enough in its effects to generally replace iridectomy for chronic glaucoma, while the Lagrange operation, or some of its modifications, seems to be growing in favor.

Case 1.—*History.*—The patient, F. M., aged 23, watchmaker, came to me Sept. 13, 1907. The case is especially interesting on account of the youth of the patient. The family history is also interesting in that the mother, at the age of 46, came to me with absolute glaucoma of the right eye, which, not yielding to iridectomy twice performed, required removal. Outside of glaucoma in the mother, there is no other family history of importance in the case. For three months before the patient came to me, the sight of the right eye had gradually failed with occasional attacks of discomfort, and the constant appearance of a rainbow around lights. On waking up in the morning both eyes were slightly congested, but this passed off in a very few hours.

Examination.—This showed the right eye vision equal to perception of light and perception of movements in the temporal field only. Tension + 1, and the pupil slightly dilated with anterior chamber shallow. The fundus showed a cupping of the disc amounting to three diopters with the retinal arteries pulsating. The left eye showed a vision of 20/30, field of vision normal, pupil slightly dilated and anterior chamber slightly shallowed, tension possibly slightly above normal, but difficult to determine owing to inability to compare with the normal eye. The fundus showed a cupping of about two diopters. Arterial pulsation only on pressure. In both eyes the optic discs were unusually large with the cupping sharply at the edge of the disc and sclera, with the vessels disappearing momentarily, entirely, in both eyes. The right eye showed entire loss of the nasal field up to the middle line.

Pilocarpin was immediately ordered and arrangements made for the patient's admission to a hospital for operation. The pilocarpin reduced the tension in the right eye, and contracted the pupils well, improving the vision in the right eye to counting fingers at two feet, in the temporal field, and improving the left eye to a vision of 20/30.

Operation.—On September 18 a Lagrange operation was performed on the right eye, and as this was the more advanced as to the glaucoma, only a small portion of the beveled edge of the sclera was removed. A moderate-sized iridectomy was performed and the large, well-shaped conjunctival flap was easily replaced. I was surprised at the ease with which the conjunctival flap could be pulled down over the cornea, out of the way, allowing an iridectomy to be performed as easily as after a keratome incision. A week later the same operation was performed on the left eye, and a large-sized piece of sclera removed. In this eye I also obtained a very good iridectomy and reposition of the conjunctival flap.

Postoperative History.—The healing was uneventful and unaccompanied by any entanglement of the iris in the wound. The edematous condition of the conjunctival flap was, of course, very marked, especially in the left eye. This condition of localized edema, which could be increased on manipulation of the eye, persisted for several months, and was present when the patient was seen Jan. 20, 1908, at which time the left eye showed a vision of 20/20, with a —2 cyl., axis 90°. The right eye could count fingers at two feet, in the temporal field, and in both eyes the tension was normal or even subnormal. The patient had returned to his work at the watchmaker's bench. I saw him again March 1, 1910, more than two years after my last record, and found the following conditions: The right eye, which looked perfectly white and quiet, still retained the same amount of vision, and had a normal tension. The line of incision showed very plainly as a bluish mark from 0.5 to 1 mm. in width, extending a little less than the length of the original incision. Just to the left of the center of this bluish line, there was a round bluish opening with a refracting center, as though a bubble of air were caught just under the conjunctiva. It had a diameter of 1 mm. and I felt that this represented a distinct fistulous opening into the anterior chamber. There was no surface elevation of tissue over this spot, but the conjunctival tissue represented by the original flap was slightly and evenly edematous, with a slight increase of this condition following pressure on the lower part of the eye. Continued pressure, however, did not create anything like a bleb or visibly decrease the fluid in the anterior chamber. The left eye showed, with his glass, a vision of 20/15. The eye was perfectly white and quiet with normal tension and no sign of conjunctival edema, and the incision showing as a bluish line, rather wider than that in the right eye, but having no appearance of fistulization.

In this case it is evident that the glaucomatous condition has been entirely relieved, though it is questionable if there is any filtration, at present, through the cicatrix of the left eye. It seems justifiable to suppose, however, that the marked filtration which was present for more than three months after operation allowed a more permanent cure from the iridectomy. The right eye, however, shows, after over two years, most of the evidences required to prove the presence of an iris-free filtering or fistulous cicatrix. My previous experiences with miotics and simple iridectomies for such advanced cases as represented by this right eye would lead me to expect a steady decline in vision instead of the complete maintenance of a vision which this patient insists is of great help to him.

Case 2.—*History.*—The patient, Mrs. G. H., gave a negative family history. For several years the sight in her right eye had been gradually failing up to Dec. 15, 1907, when she was stricken with a very severe attack of capillary bronchitis, and on the following day developed an acute attack of glaucoma in this right eye.

Examination.—When I saw the patient, December 16, I found the right eye in condition of acute glaucoma, with entire loss of vision, steamy cornea, with greenish pupillary reflex; tension + 3, and eye very much inflamed with conjunctival chemosis and extreme pain. She was coughing incessantly, and in view of her condition it was considered inadvisable to operate. Physostigmin (eserin) was accordingly prescribed to be used every three hours, and under this the pain ceased, the pupil contracted to nearly normal size, the cornea became less steamy, and the patient could discern movement of the fingers at two or three feet.

Operation.—No further improvement in vision took place, however, and the patient's condition improving, a Lagrange operation was performed on both eyes Jan. 2, 1908. The performance of the operation was very difficult on the right eye owing to the shallowness of the anterior chamber and excessive hemorrhage. The operation on the left eye was performd with no difficulty, and semed advisable on account of the finding of slight cupping of the disc and shallowness of the anterior chamber, with a slightly larger pupil than one would expect in a woman of her age. There was, however, no increase of tension, but the eye was evidently in a condition to develop glaucoma easily. The healing was uneventful in both eyes, with appearance similar to those described in the first case. The right eye, however, at the end of three weeks developed some increased tension and pain, and there were no signs of escape of aqueous into the subconjunctival space. A second Lagrange operation was then performed to the temporal side of the original one.

Postoperative Condition.—This resulted in reduction of tension, which has remained up to the present time, though the eye has only perception of light, practically no increase of vision having been obtained from either operation. This patient was seen again March 1, 1910, over two years after the performance of the operations. The left eye showed perfectly quiet and white with no conjunctival edema, and good clean coloboma without entanglement of the iris in the wound, and the line of incision showing as a bluish-gray area, about 0.5 mm. wide, extending nearly the full length of the original incision. There was no sign, however, of fistulization, to the naked eye. The vision with a + 3.50 sph. combined with a + 1.12 cyl., axis 175°, is 20/20. The right eye showed a regular, continuous, bluish line along the site of both incisions, varying from a millimeter in width down to nothing. At the point where the two incisions came together, and also at the nasal end of the first incision, there was some entanglement of iris. There was no sign of conjunctival edema, but there was a small, bluish cystoid scar at the nasal side containing some iris tissue without other signs of a fistula. The tension was normal, and there was absolutely no pain or discomfort.

The other Lagrange operations which I have performed are so recent that I will not detail them, but simply state that all four, up to the present, show the conjunctival bleb indicative of aqueous escape into the subconjunctival spaces. They were all performed in cases of simple glaucoma in which no history or signs of previous acute or subacute attacks had ever been present, and in which the vision and fields were much reduced, and the discs cupped and atrophic; the results so far have been most encouraging as to improvement in a vision which had been steadily failing under the careful use of miotics. I should state here that in neither of my two reported cases, which now are over two years old, has any miotic been used since the Lagrange operation, nor has any been used since operation in the newer cases, so that all the improvement and maintenance of vision must be ascribed to the operation.

From my reading coupled with my personal observation, I feel reasonably sure that the Lagrange operation, or one of its modifications, has come to stay because it is a distinct advance in our operative treatment of chronic glaucoma, in that it makes the effect of an iridectomy more marked at first, and more permanent later, thus keeping the vision existing at the time of operation much longer than can be hoped for from miotics, simple iridectomy, sclerotomy or cyclodialysis.

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ABSTRACT OF DISCUSSION

Dr. John E. Weeks, New York: From the reading of the first paper of La Grange, the proceeding that he described impressed me favorably and at the first opportunity I began performing the operation. I have operated after this method in glaucoma, I think, 37 times. The operation is an iridectomy made in the manner which is at the present time classical and, in addition, the excision of a small piece of sclera. The incision is made by means of a Graefe cataract knife, making a large conjunctival flap. The operation itself is not a difficult one, in my opinion. The incision can be made so obliquely that, by grasping the conjunctival flap and pulling it forward, the piece of sclera to be excised can be exposed and rapidly excised by means of the curved scissors. I have watched very carefully the results of this procedure, and I have been very favorably impressed by it. Only a short time since a patient came to my office on whom I had operated some three years ago, and I found in that case that there was an actual filtration cicatrix in each eye. I had operated on both eyes. I found that the conjunctiva over the site of the iridectomy was somewhat raised, edematous, and by pressing on the eye the edematous condition could be increased slightly. Such is not the case in all the patients on whom I have operated, by any means, but the various cicatrices as represented by La Grange have been observed in the cases in which I have operated. First, in some of them the surface was perfectly smooth and the incision was filled by a cicatrix which showed no irregularities; second, in others there was some irregularity in the cicatrix, but not any evidence of filtration; third, there were still others in which the evidence of filtration was perfectly clear and pronounced. I know that the observations of Henderson and his histologic experiments seem to negative the claims of La Grange. Henderson concludes that the scar fills so that it entirely blocks the incision, and that no filtration results. This is true, I think, in many of the cases, but not in all. We have, then, in this operation, an iridectomy which is usually as efficient as an iridectomy made in any other way, and in addition the formation of a cicatrix, which may be a filtrating cicatrix in some of the cases at least. Moreover, if the tension does recur it is very much later in the cases in which a simple iridectomy has been performed. While at one time my impression was that I should revert to the ordinary iridectomy, at present I am of the opinion that I shall continue to use the operation of La Grange.

Dr. H. Gifford, Omaha: I do not think that we need waste any time in discussing the possibility of making a filtrating cicatrix; that is to say, a cicatrix or opening that will stay open, between the anterior chamber and the subconjunctival tissue. I think all of you have seen, as I have, these blebs remain after an iridectomy performed in the various ways, or after cataract operations, and if you will begin massage after iridectomy and keep it up you will keep up such a bleb. But the question whether that will lower the tension of the eyeball permanently is a different one. In many cases in which I have seen this bleb left the tension has gone up, just as it has in other cases. In one case I had a beautiful bleb which stood up in bold relief in both eyes, but the poor man's tension kept up and the sight went down until he finally killed himself. So that it remains to be seen, and it will take a good deal of time for us to tell, whether anything is gained by this cutting out the sclera. Theoretically one would expect to find the shreds of connective tissue going across this opening and filling it up; but even if it does not the question of its effect on the tension is still, I say, an open one.

Dr. Allen Greenwood, Boston: Holth in his article says that no case is successful unless the tension has remained normal for two years and unless at the end of two years there remains evidences of a filtering scar. This result Holth has undoubtedly obtained, according to his written description of the cases in which he has operated, and I feel confident that, in the few cases I have seen, the tension has remained down better than after the ordinary iridectomy, particularly in the cases in which the tension before the operation was considerable; and it is in those cases, as La Grange has pointed out, that you get the best results. I do not mean in cases in which there has been any inflammatory disturbance of the eye. Most of my patients have had no inflammatory signs of glaucoma; simply a cupping of the disc, with slight increased tension or occasionally plus one or over. In regard to doing the operation, it is simply an addition to the ordinary iridectomy made with the flap incision, and the cutting off of the small bevel of the sclera adds practically little to the operation itself, and I think it is an operation that for certain cases has come to stay. I think that all of you will be doing it later.

I have thus in my paper presented as briefly as possible the different operations recently devised for making the effects of glaucoma operations more permanent by efforts to establish a filtering cicatrix, or what might be better termed a subconjunctival fistulization of the sclerocorneal scar. Since writing my paper I have done additional La Grange operations, so that in all fifteen eyes have been operated on with only the happiest results. The later operations show even more clearly earlier evidences of fistulization than did those done at first. In cases in which the iris follows the aqueous out of the incision the iridectomy is done first, and then the sclerotomy follows.

Eucalyptus Oil in Treatment of Hookworm Disease.—P. Wijn writes from Ngawi in Java that the number of patients with ankylostomiasis is constantly increasing in the island. During 1907 such patients formed 4 per cent. of all applying to the Policlinic, and the proportion is becoming larger yearly. But he has found a method of treatment which seems to act much quicker and more reliably than the male fern or thymol. He prescribes:

℞.	gm.	
Olei eucalypti	2|5	gr. xl
Chloroformi	3|5	gr. liv
Olei ricini	40|	℥iss

This is taken three times a week in two doses, with a two-hour interval, in the morning, fasting, with a dose of castor oil the day before. The patients are allowed to go home each day after their medicine has operated. A single course of the kind proved effectual in nearly every instance, and never more than two were required. His communication is published in Janus, March, 1910, xv, 178.

ANOMALOUS SCARLET FEVER

A REPORT OF THREE EPIDEMICS*

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During the past decade there have occurred in Lakeside Hospital three epidemics of what is thought to be anomalous scarlet fever. In each of these epidemics the disease might have passed unrecognized or at least some doubt might have been entertained as to its nature, had not one or more typical cases occurred which acted as a diagnostic control. These epidemics were characterized by the mildness of the attack, the benign course of the disease together with the suppression or complete absence of the exanthem together with some other of the more important symptoms.

The first epidemic occurred in the winter of 1904-5 and started in the children's ward, but before strict quarantine and disinfection terminated its spread, the medical and surgical wards likewise contributed until eighteen cases were observed.

REPORTS OF CASES

CASE 1.—A child admitted with some slight ailment was observed to have a faint rash on the neck and face which soon disappeared, although a redness of the fauces persisted somewhat longer. There had been but a slight rise in temperature and the case attracted no special attention.

CASE 2.—A child aged 3 was admitted to the surgical service with tuberculosis of the knee. On November 30 the knee was aspirated and iodoform emulsion was injected. December 1 the temperature, which had been about normal, registered 103 F.; it became normal again on the 2d, and the following day again arose to 103. On the 4th a slight reddish, papular rash noticed over the trunk with flushing of the face. This was thought to be due to iodoform poisoning. Further examination, however, brought to light changes in the fauces; and the tonsils were red and slightly swollen. Three days later, December 7, the night nurse on duty in this ward came down with a typical infection of scarlet fever of moderate severity, whereon both were immediately isolated. The child ran a mild course with slight desquamation and was discharged Jan. 13, 1905.

CASE 3.—The case of the nurse above mentioned ran a typical course of moderate severity. It is noted that differential blood-count showed a marked increase in eosinophils.

CASE 4.—A child, aged 11 months, was in the surgical service for a hare-lip operation. Some time after the operation it was noticed that the temperature, which had been normal, suddenly arose to 103 but returned again to the normal two days later. Three days after this, December 4, it registered 101 and the next day the face was flushed, except around the mouth, and a slight rash could be made out over the body. There was also inflammation of the throat. The child was isolated, and three days later the rash had disappeared. The temperature at this time was 99. Desquamation had already begun around the neck. From this time the temperature became irregular and later a discharge was noticed from the left ear. The notes of the case show that the child was discharged well, Jan. 11, 1905.

CASE 5.—A hospital nurse, aged 19, complained of a headache, was chilly with a sore throat on December 4. On the afternoon of the same day the left tonsil was red and puffy with pin-point white spots. The temperature was 101.6. The next morning she still had headache and vomited once after taking magnesium sulphate. The tonsil being still "puffy and sore" the patient was taken to the operating-room to have it incised when one of us was asked to see the case. A diagnosis of scarlet fever was made and the patient isolated. Previous to this no rash had been seen although a slight itchiness of the skin had been complained of. At the time of our examination, however, a pinkish velvety rash could be made out on the sides of the neck and upper part of the chest. The face was deeply flushed, except about the mouth. The following day the rash was well out and of typical appearance. It then became patchy and began to fade two days later. Both tonsils became covered with a grayish exudate and general glandular enlargement was present. Throat cultures showed the staphylococcus and streptococcus. Blood count on December 4 showed eosinophilia 8 per cent.; no other change noted. The case thenceforth ran an uneventful course.

CASE 6.—A hospital nurse, aged 29, on December 8, complained of chills, sore throat, headache and vomiting. These, however, were not very severe and she continued on duty. Her appetite seemed unimpaired. Two days later the face, shoulders and outer aspect of arms were found to be flushed. The tonsils were slightly enlarged and injected and the tongue coated. The following day the erythema had assumed a blotchy appearance and was limited to the regions first involved. It did not extend and was followed by a slight branny desquamation on the arms and face. During the whole course the temperature did not go above 99.

CASE 7.—A child, aged 4, was admitted to the hospital December 6 suffering from acute bronchitis; while in the ward the temperature ran from 99 to 100. On December 21 the child had a slight erythema on the trunk, legs and face and the tonsils were red and swollen. The next morning the rash was faint, the tongue was coated and the tonsils were very large. By the 25th the rash had disappeared; although the patient was under close observation no appreciable desquamation followed. The urine showed a faint trace of albumin from December 12 to December 24. The temperature was never above 100.

CASE 8.—The patient, a child aged 3, on surgical service was operated on for club-foot on December 6, and on the 7th the temperature arose to 100.5 and remained between that point and normal until December 14. On that day, although the patient had not formerly complained, the temperature arose to 102.5 and there was a slight reddish punctate eruption over the body with the face flushed, excepting the circumoral region. The tongue later presented a strawberry appearance and the tonsils were large and red. There was a general glandular enlargement. On the 20th desquamation began and the child was discharged well one month later.

CASE 9.—A nurse, on duty in the infected ward, had scarlatina accompanied by arthritis, which was not severe. Her case ran a typical course. The patient made an uneventful recovery.

CASE 10.—A laborer, aged 30, was admitted to the surgical service for a herniotomy. On December 20, four days after admission, there was a slight rash on the body with an injected throat and large, red tonsils. The tongue was swollen and coated, glands enlarged. On January 1, desquamation started and patient was discharged January 16. At no time was the temperature above normal excepting on December 29, when the wound became infected and the temperature remained above normal for a few days. The leucocyte count was 23,000, eosinphiles 11 per cent., blood-cultures negative.

CASE 11.—A miner, aged 28, had been admitted to the hospital on September 4 for paraffin injection of the nose. On December 22 the patient had swollen tonsils, a suggestive tongue and a very slight, pinkish, macular rash on the body, the macules being from 1/8 to 1/2 an inch in diameter with a slight erythema between them and looking somewhat like measles. There was no enanthem on the buccal mucosa, no nausea, sore throat or fever; but the patient had some headache and general glandular enlargement. On December 21 there was a slight desquamation on the right hip which lasted only a few days; no desquamation was noticed elsewhere. The urine showed a faint trace of albumin from December 23 to January 10; the temperature was never above 99.

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* Read in the Section on Dermatology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Case 12.—The patient, a nurse aged 20, on December 14 had some headache, sore throat and felt feverish, vomiting four times. On examination there was a slight erythema of the arms, over the region of the scapulæ and on the face, except the circumoral region. The patient also had a coated tongue and swollen, red tonsils covered with a slight exudate. The glands were not enlarged. By the 20th the rash on face and arms had faded, having appeared nowhere else, and on December 28, there was a very slight desquamation present on the areas involved. The nurse was discharged January 9, having never had a temperature above 100 and that only during the first night. The urine showed a faint trace of albumin up to January 6.

Case 13.—A nurse, aged 23, on December 15 had headache, sore throat, and felt chilly and feverish. The next day there was a slight rash on the chest and neck with a temperature of 100.5. The tongue was swollen and coated, and the tonsils red and enlarged. The glands about the neck showed enlargement. By the 20th the rash had disappeared but no desquamation followed. On the 24th the throat again became sore and the glands enlarged and tender with a rash over the whole body. Then typical desquamation appeared, and the patient was discharged January 10. Except during the first night the temperature was never above 100. The urine showed a faint trace of albumin for a few days.

Case 14.—A maid employed in the hospital, aged 25, on December 22 had a sore throat, headache, backache and was nauseated. She continued to work until two days later, when on examination she showed a flushed face, except the circumoral region, with erythema over the chest and shoulders. The tongue was large and coated, papillæ prominent, tonsils red and swollen and glands generally enlarged. The erythema was entirely gone by December 27, but the patient never had the slightest trace of desquamation. The urine showed a faint trace of albumin from December 25 to the 29. There were no casts. The leucocyte count was 13,600, eosinophiles 13 per cent., throat cultures gave staphylococci and streptococci. The temperature was never above 99 nor was the pulse over 100.

The remaining cases in this epidemic showed nothing unusual except that they were very mild and comparatively of short duration. The points mainly to be noted in this epidemic are the following:

1. The relatively large numbers of adults, chiefly nurses in the infected wards. Of eighteen attacked, eight were adults, six were nurses or otherwise employed in the wards, and two were adult patients exposed while in the wards.

2. The benign character of the infection and its short course, (average being 3.9 weeks from appearances of rash to end of desquamation). The only constant symptoms that could be regarded as at all typical were the onset and the congestion of the fauces. The cutaneous manifestations, with two exceptions, are evanescent and alone insufficient for the purpose of diagnosis.

The second epidemic began in April, 1907; there were eleven cases reported, although the case notes were found even less complete than in the first epidemic. As nearly as can be ascertained the epidemic began in the children's ward as an indefinite sore throat with no distinct or constant cutaneous manifestations.

Convalescence, however, was more protracted than was observed in the first epidemic and even a larger proportion of adults were attacked. The following may be taken as the most typical examples of this epidemic.

Case 15.—A nurse, aged 20, was admitted to the isolation pavilion April 19, 1907, after having had a slight sore throat, headache and malaise since April 16. On examination there was a faint rash over the entire body, general glandular enlargement, tongue negative, tonsils injected and the right one enlarged. There was nothing abnormal in the heart or lungs. The rash disappeared by April 22 and desquamation, which was never very profuse, did not start until May 1 and lasting until July. The temperature was never above 99.5, excepting at one time, when it went up to 100.3. The pulse was never more than 110; urine was negative. The patient was discharged July 1, 1907.

Case 16.—A nurse, aged 21, on July 13 complained of sore throat, weakness, nausea, cold perspiration and fever. The next day she noticed an eruption and on examination there was found a marked erythema with edema of the face. There was a strawberry tongue, throat swollen, tonsils covered with a membrane, glands all palpable. The cutaneous rash and the membrane in the throat were gone by May 18 and desquamation started lasting until July. The temperature on admittance was 104 and pulse 120, both of which came down to normal in four days. No complications were noted, excepting a slight trace of albumin in the urine. Cultures of the streptococcus were obtained from the throat.

Case 17.—A nurse, aged 20, with previous history of rheumatism and chorea, had been on duty in the infected ward. On May 9 she complained of weakness, sore throat and malaise. On the 10th a rash was noted on the chest, arms and neck and on examination there was a faint erythema over the entire body, with a strawberry tongue, swollen tonsils covered with a heavy membrane and general glandular enlargement. The throat swab showed only streptococcus. The rash was gone by the 13th and desquamation began about a week later, being finished by July. The patient developed a slight arthritis and myocarditis. The temperature remained about 101 until the 15th. The urine showed a faint trace of albumin.

Case 18.—A nurse, aged 19, awoke on May 9 with a slight sore throat, nausea, malaise and slight fever. The next day a rash was noticed and on examination the patient had a very slight erythema over the entire body with a negative tongue and injected throat and tonsils. The superficial glands were slightly enlarged. Desquamation began on the 25th, lasting until July, although never very extensive. The urine showed a faint trace of albumin; there were never any casts. The temperature was 100 on the first day, after that normal.

Case 19.—A nurse, aged 20, on May 4 complained of severe sore throat, nausea and malaise. Early in the afternoon an eruption first appeared on chest and neck. The following day a general marked erythema was present with glandular enlargement, tongue large, swollen, reddened, and throat greatly congested. The rash had disappeared on the 19th, and the throat was normal by the 21st. Desquamation began June 1 and lasted until July 17, although never very profuse. The temperature on admission was 102, but soon fell to normal where it remained. The urine showed a faint trace of albumin.

In this epidemic, as in the one preceding, there developed no serious complications or fatal results. The features to be noted are the sudden onset with marked involvement of the fauces and comparatively high temperature followed by a varying degree of the exanthem. There was a rapid subsidence of all symptoms followed by a retarded but protracted period of desquamation.

What may be termed the third epidemic occurred in 1909. Although but three cases were observed they furnished features that are thought worthy of mention.

Case 20.—A child, aged 9 months, was on the surgical service for cervical adenitis, being admitted Oct. 31, 1909. It had some discharging sinuses which were being packed with iodoform gauze, and on March 21 the child developed a slight scarlatiniform rash with a temperature of 100. The rash was faint, atypical, lasting only three days. There was no nausea or vomiting. The throat was congested and reddened, while the tonsils were enlarged. At first the case was regarded as an iodoform rash, but as the patient had 7 per cent. of eosinophiles in a differential count of 200 cells she was isolated, and while in isolation had a typical desquamation and double otitis. The urine also had a faint trace of albumin.

The temperature never went above 100 until the otitis developed.

CASE 21.—The child in the next bed to the patient last described came down three days later with a typical scarlet fever. She was a girl aged 3, in the hospital for acute anterior poliomyelitis. The rash was marked and typical, with a temperature of 103, rapid pulse, vomiting, severe sore throat and a considerable enlargement of the tonsils. Two days later the rash faded and the case ran a typical course of desquamation with eventually a complete recovery.

CASE 22.—A nurse, aged 24, was nursing the child with obscure so-called iodoform rash. Two days later she was taken off duty because of a sore throat and a feeling of malaise and headache. The throat was very red and edematous, the tonsils greatly swollen so that they met in the median line. They were partially covered with a membrane but showing no diphtheria bacilli. The glands were not enlarged, except those of the neck. The temperature was 100 on admittance, 103 two days later and afterwards never above 100. On December 1 the patient vomited several times but the tongue was never typical. The leucocyte count was 19,000; differential showed no eosinophilia; urine was negative. The patient never showed any rash or desquamation, but considering her symptoms it was deemed justifiable to place her in this list.

CHARACTERISTIC FEATURES

The most striking characteristics in this series of 32 cases occurring in three epidemics were the following:

1. *Erythema.*—There were three cases in which erythema was very slight; in one it was absent and in one it was confined to small areas and very evanescent. Two of the patients with slight erythema had it confined to the neck, shoulders and arms. It may be well to mention, in passing, that one patient had a secondary erythema.

2. *Temperature.*—This varied from normal to 105 F. Four patients never had a temperature above 99, two never above 100, and the remainder ran between 100 and 105, most of them, however, between 100 and 102.

3. *Desquamation.*—There were six cases in which the desquamation was typical and one in which it was faint but general. One patient never showed any desquamation except around the neck; another none except on the right hip. There were two in whom it was confined to the face, arms and shoulders and three never showed any desquamation.

4. *Urine.*—In only two cases was there absence of all signs of nephritis, while all the others had a faint trace of albumin; and in one case, there were casts. Two of the three patients showing no desquamation had a faint trace of albumin for a few days.

5. *Angina.*—Practically every patient in this series had a severe angina, seven of them also showing presence, more or less, of a membrane in the throat.

6. *Blood.*—The only changes noted were a marked increase in the number of leucocytes in a few cases, and in a number of instances the differential blood count showed a high percentage of eosinophiles, which is in accord with the observations of Van den Berg[1] and Kotschetkoff.[2]

LITERATURE OF THE SUBJECT

In the literature dealing with this special phase of scarlet fever, namely, the absence of exanthem with little or no rise of temperature together with other manifestations characteristic of a faint type of the disease, we find as far back as 1839, Taupin[3] observed, during the course of his internship at the Hôpital des Enfants Malades, an epidemic of five cases of scarlet fever in two of which there was no eruption. The year previously Eiselt[4] published an account of a severe case of scarlet fever in a girl of 20, in which there was no eruption, although the girl had a marked desquamation associated with anasarca. She eventually recovered.

Buttura[5] in 1857, was called on July 10, 1856, to see a young man who suffered from a well-marked scarlatinous angina. The eruption was copious and the disease followed a course typical of scarlet fever. Four days later a little girl in the same family developed croup; angina marked but no eruption throughout the course of the disease. Five days later on June 20 a little brother also developed intense characteristic anginous symptoms; the odor from the mouth was pronounced. No eruption could be observed at any time. Convalescence was prompt in all three. There were no sequelæ.

Buttura then enters into a discussion concerning the opinions of authors in regard to the possibility of scarlatina without eruption, and reviewed the literature of this subject at some length. He states that in September, 1829, there reigned in the village of Seine-et-Oise an epidemic of so-called common angina. Careful study by the local physician led to a diagnosis of scarlet fever with predominant mouth (throat) symptoms. In the Château de Villeroy, inhabited by Comte Friant and his family, thirteen persons were affected, and of these, five presented a special angina without eruption.

Trousseau observed scarlatinous angina without eruption of the skin in 1828, at Cour-Cheverny. The diagnosis was made on the strength that a boy had distinct scarlet fever with eruption. Three sisters of the boy developed fever, angina, but no eruption.

He states that Dr. Carrière observed during an epidemic at Saint-Dié (Vosges) during the winter of 1842-1843, 34 cases of scarlet fever with an eruption in 23 only, and in the majority of these it was very slight. The disease ran a benign course. In one case of scarlatinous edema with albumin in the urine; no sign of eruption appeared, although all the other symptoms of scarlet fever with angina were present.

Bouché (of Vitray) reported four cases of scarlet fever as follows: The first was typical scarlet fever without eruption; the next a typical case with eruption; the third was again without an eruption and the fourth again a usual case. Two of the cases were without eruption. The diagnosis was made from general symptoms and the presence of eruption in the other two cases occurring in the same house.

Legroux reported a case of scarlet fever in a chlorotic woman in whom the eruption could barely be made out. The eruption was likewise scarcely perceptible in an infant of four days who is supposed to have contracted it from the mother, who had scarlet fever on the second day of puerperium. The father had an angina without fever or redness of the skin at the time that the scarlet fever terminated in the mother.

In another house a boy had ordinary scarlatina; the sister developed a marked angina, with pronounced scarlet eruption and died. During the course of this affection the mother, her infant, and a young woman of

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[1] Van den Berg, J. B.: Arch. f. Kinderh., 1898, xxv, 321.

[2] Cabot, R. C.: Clinical Examination of the Blood, New York, 1897, p. 177.

[3] Taupin, Charles: Essai sur la scarlatine sans exanthème, Thèse, Paris, 1839; abstr. in Jour. conn. méd.-chir., vii, 151-155.

[4] Eiselt, J. N.: Fall einer Febris scarlatinosa sine Exanthemate, Med. Jahrb. d. k. k. oesterr. Staates, Wien, 1838, New Series, xv, 212.

[5] Buttura, C. A.: *Des fièvres éruptives sans éruption et particulièrement de la scarlatine sans exanthème*, 1857, Paris.

24 contracted angina with pseudomembranous plaques, with fever, but without eruption, lasting six days. Three days after the death of the child, the grandmother and the father presented guttural angina, slight fever, characterized by a bright redness, but no swelling.

During an epidemic in Berlin, Dr. Helft observed cases in which no eruption appeared although all the other symptoms prevailed, occurring in families in which scarlet fever was present.

In an epidemic of scarlet fever at Loudon (Vienne) from March to September, 1841, Mondière reported that in one case of very severe angina the eruption was confined to the feet and hands only. In other cases no eruption appeared.

During the epidemic at Loches, 1835, Renaud observed three cases of scarlet fever in one family. Two children developed typical cases of the disease when the third one was stricken with all the severe symptoms that the others had shown, but at no time during the attack did it develop the slightest sign of an eruption. The course of the disease was quite severe in this case, but the child recovered.

Berrand further states that Krauss of Tübingen reports having observed scarlet fever without eruption in the proportions of 1 in 3. The cerebral symptoms predominated in these cases. He states that Dr. Maclintock reported three cases as follows: Child was taken with vomiting; condition did not improve; coma alternating with spasms, death ensued. On the day this child was buried another in the family was taken in the same manner; developed the same symptoms; marked convulsions and death. The third child was also taken. It, however, developed a typical scarlatina rash. No doubt the other two children died from scarlatina without exanthemata.

About the time Buttura's article appeared Bauer[6] reported an epidemic of 20 cases, among them being that of a boy who had, he thought, a very severe scarlatina, yet developed no observable eruption at any time. The patient eventually recovered after having had a post-scarlatinal arthritis.

Anderson,[7] Banks,[8] Whelan,[9] Robinson,[10] Dreyfus,[11] and Brissoe and Wetherill,[12] also reported similar cases about this time, all agreeing that in their experience scarlatina at times existed with absence or sparseness of the eruption as well as other symptoms of scarlatina. At such times it is impossible to make a diagnosis were it not for the fact that an epidemic of scarlet fever is in progress.

Furthermore Gosebler[13] in 1881 made a diagnosis of scarlatina in two children aged 30 months and 6 years respectively, despite the fact that they had no eruption, desquamation or throat symptoms. He based his diagnosis on the following grounds: that the children were ill for some time, the illness in each case being with fever and repeated vomiting, followed later by large amounts of albumin in the urine; and that it was at a time when scarlet fever was very prevalent in the town and quite fatal. Furthermore several cases of scarlatina without exanthemata had been observed. In 1892 Baiss[14] reported three cases in one family with the following history: The first child was found to have a temperature of 102; the next day the temperature was normal, but the child had a slight sore throat and some enlargement of the glands of the neck; otherwise it seemed to be well. There was desquamation later, however, and a few days after the beginning of the child's illness a second child was seized with more severe symptoms, and with an eruption which resembled measles. At this time the third child became ill with a typical scarlatinal eruption accompanied by jaundice. Were it not for the last case it would have been difficult to diagnose correctly those preceding.

Lee[15] reports sixteen cases, occurring in four families in which four adults and twelve children inhabited the same building. The series is noteworthy because of the absence of the exanthem as well as some other symptoms. In the first two only was any rash observed. The first patient when seen had a fast pulse, temperature 101, strawberry tongue, characteristic rash and sore throat. In five patients the glands were neither swollen nor tender. Only three had sore throat and only two vomited. The temperature in all ranged from 101 to 102; the pulse in the children, from 140 to 148, and in adults from 130 to 134. The following sequelæ were noticed: One patient developed diarrhea, two bronchitis, and in two only was there desquamation. In two after some exposure there followed swelling of the submaxillary glands with rise of temperature and accelerated pulse. One woman, contracting the so-called scarlatina five days after labor, had puerperal fever.

Warry[16] reported an interesting epidemic of 150 cases of scarlatina with sore throat but with an absence of rash. The entire epidemic both in regard to those having rash and those without rash were found to be due to the milk supply. The author believed the cases without an exanthem to be scarlatina for the following reasons:

1. Many of the patients had desquamation during convalescence.
2. Others had kidney complications.
3. Several had arthritis.
4. Several developed otitis.

Further, it may be interesting to note that scarlatina without fever has also been recognized not infrequently and corresponds more or less with some of our cases.

D'Amore[17] reports several cases and Brunard in the past year states that he has observed a number of cases about Brussels. He mentions in particular three cases, in children, which occurred in one family. They ran an afebrile course and were mild, yet all three had typical scarlatina complications.

McClanahan[18] at Woodhull, Ill., also had the opportunity of studying afebrile scarlatina in a series of 150 cases. Many of his cases also were notable on account of the absence or mildness of the exanthem and other symptoms.

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[6] Bauer, F.: Beitrag zum anomalen Verlauf des Scharlachfiebers, Ztschr. f. med. Chir. u. Geburtsh., 1859, xiii, 97.

[7] Anderson, W. J.: Some Anomalous Cases of Scarlatina, Lancet, London, 1854, i, 327.

[8] Banks, J. T.: Dublin Hosp. Gaz., Anomalous Scarlatina, 1858, New Series, v, 65.

[9] Whelan, J. H.: Modified and Anomalous Scarlatina, Lancet, London, 1883, ii, 769.

[10] Robinson, C. H.: Scarlatina sine Eruptione, Lancet, London, 1870, i, 227.

[11] Dreyfus, Brisac: De la scarlatine anormale, à propos de trois cas observés dans la même famille, Gaz. hebd. de mèd., 1884, Series 2, xxi, 606.

[12] Wetherill, Horace G.: A Series of Unusual Cases of Scarlet Fever, Tr. Med. Soc., New Jersey, 1888, p. 225.

[13] Goschler, A.: Kurzer Bericht über drei Fälle von anomalen Verlaufe der Scarlatina, Prag. med. Wchnschr., 1881, vi, 385.

[14] Baiss, J. R.: Some Anomalous Cases of Scarlet Fever, Boston Med. and Surg. Jour., 1892, cxxii, 630.

[15] Lee, W. R.: Med. News, Philadelphia, 1892, p. 186, Scarlatina sine Exanthemata.

[16] Warry, J. K.: Special Report on a Recent Outbreak of Scarlatina and Sore Throat Disease in Upper Clapton, Practitioner, London, 1892, xlix, 63.

[17] D'Amore, L.: Scarlatina apiretica, contribuzione alla casuistica, Progresso med., Naples, 1895, ix, 25.

[18] McClanahan, W. S.: Some Peculiarities in a Mild Epidemic of Scarlet Fever, Peoria Med. Jour., 1896, i, 339.

He says that in December, 1892, he was called to see a patient with a temperature of 101, pulse 100, restless and complaining of itching. She had red faucial and buccal membranes; the tonsils had a fibrinous deposit over them, no strawberry tongue. By the next day restlessness had disappeared but there was a typical scarlet fever eruption although the temperature and pulse were normal. In another twenty-four hours the throat was clear, the rash and all other evidences of scarlatina had disappeared and the patient had no further trouble.

From this time until 1893 he saw about 150 cases. The fauces were involved in every case, as was the presence of the strawberry tongue. In about one-third of the cases there was no eruption. In six of them it resembled that of rubeola and in three the surface was nearly scarlet, red, smooth and glossy but without the minute points seen in the scarlatina rash. In the remainder the exanthem was the ordinary scarlet fever rash except that its stages were of shorter duration.

Twenty of the cases were followed by otitis; this occurred irrespectively of the other symptoms. The temperature seldom rose above 102, and this fever rarely lasted longer than three days; in fact, in the majority, the temperature was normal by the third day. At times the disease appeared to be contagious, at other times not.

Rodger y Piza[19] had the opportunity of observing an interesting case. In a certain family there was a child who ran through a typical course of scarlatina. Rodger y Piza was suddenly called in to see a younger child who had had a high fever for twenty-four hours and was voiding dark urine. The latter on examination was found to contain blood, epithelial cells, casts and much albumin. The hematuria lasted for thirty days. On the twelfth to the fourteenth days there occurred a slight furfuraceous desquamation on the face and upper part of the chest and forearms. From the presence of scarlet fever in the house Rodger y Piza had not the slightest doubt that this was a case of scarlatina *fruste,* so called by Trousseau, only one symptom of scarlet fever being present.

THE VARIATIONS OF SCARLET FEVER

From the foregoing it seems evident that what is known as scarlet fever varies greatly in its clinical manifestations. In a violent form it may cause death within a few hours, or in its mildest form it may be evanescent and difficult to recognize. As to the *materies morbi* which gives rise to scarlet fever we know nothing positively, nor of its mode of invasion. From the epidemics herein reported as well as others cited it would appear that the toxin varies in different outbreaks. From our observation it does not appear that mild infections beget malignant strains, or the reverse. Furthermore it should be remembered that in epidemics of a severe type atypical cases occur as frequently as in those of mild type.

From the fact that the tonsils are involved at a very early stage, and from the constancy with which this symptom has been noted, it would seem that the infecting agent gains access through these glands, as claimed by Dawson[20] and Lemoine.[21]

It seems unwise, therefore, with our imperfect knowledge concerning the etiology of scarlet fever, to regard these aberrant forms, which point strongly to some aberration of the exciting cause, as distinct affections. In 1894 Duke[22] endeavored to establish a "fourth disease" in the infectious exanthemata, but the consensus of opinion does not substantiate this claim. Our observations show that the most constant symptoms are the angina and slight nephritis, while an increase of eosinophiles in the blood was observed in a considerable number of our cases. Other phenomena are usually present even in atypical forms of the disease, but they are inconstant and subject to wide variation.

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ABSTRACT OF DISCUSSION

Dr. W. L. Baum, Chicago: I think that all of us who have had much experience with scarlet fever realize the great difficulty attendant on a correct diagnosis in these atypical cases. In Cook County Hospital in Chicago a number of cases have caused much controversy among the health authorities, the attending physicians and physicians in general practice. In attempting to reach a diagnosis in these cases, we have paid particular attention to the blood examination rather than to the local manifestations of the disease, and in our blood tests we have not laid so much stress on the absence of eosinophilia as on the differential blood count. We have elaborated somewhat on the theory propounded by Tillotson; that is, we have paid especial attention to the increase in the polynuclear nutritives, and so positive have we become that on that point alone do we exclude or admit the cases. We have had cases so mild that they would otherwise have escaped recognition. On the other hand, we have had cases in which the skin and throat manifestations were so manifest and pronounced that one would be led to the positive diagnosis of scarlet fever, and yet, on account of the presence of some other factor, such as a wound infection, a contrary diagnosis was established on the basis of the blood count. About three years ago I remember seeing a child with a small scalp wound, and at the same time there suddenly developed a slight temperature and sore throat, together with an erythematous rash commencing over the shoulder and extending to the sternum and other parts of the body. There seemed to be no question that the case was one of scarlet fever. When I saw the child on the following day, I was induced to make a blood count on account of the presence of the wound on the head, and as a result of the findings, scarlet fever was excluded. In the meantime, the child had been quarantined in the scarlet fever ward, and six days later it developed true scarlet fever, which proved fatal. I am convinced that it is on the basis of these blood counts that the differential diagnosis in these doubtful cases of scarlet fever can be made more positively than by any other means known at the present time.

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[19] Rodger y Piza, Ramon: Un caso de escarlatina frustada, Rev. balear. de cien. med., Palma de Mallorca, 1903, xxiv, 27.

[20] Dawson, W.: Med. Chron., Manchester, 1893-4, xix, 217.

[21] Lemoine, G. H.: Bull. et mém. Soc. méd. d. Hôp. de Paris, 1895 and 1896; Gaz. Hôp. de Paris, Nov. 25, 1895, p. 1337.

[22] Duke, Clement: Lancet, London, 1894, i, 791.

Moving Pictures of the Internal Organs.—The *Zeitschrift für Röntgenkunde* opens the year and its twelfth volume with an article by C. Kästle, H. Rieder and J. Rosenthal on the kinematographic reproduction of the physiologic movements of the stomach. They describe the apparatus for the purpose and give a series of the moving pictures and also a composite view of the stomach in normal conditions and in a case of cancer. They found that a fold forms in the stomach wall above the pylorus and protrudes inside, the fold of the stomach wall growing longer and longer, the tip curving around more and more toward the pyloric outlet. As the movements of this fold are traced in the moving pictures it is seen that the fold appears like a kind of shovel, and forces the contents of the stomach out through the pyloric outlet, after which the fold retrogresses, to form anew and go through the same procedure again. In a case in which cancer was suspected, the rudimentary protrusion and behavior of this fold confirmed the presumptive diagnosis of some serious disturbance in the physiologic movements of the stomach. The authors assert that this "bioroentgenography" is destined to prove valuable in the diagnosis of pathologic conditions.

SPONTANEOUS RUPTURE OF THE EYEBALL

A PHENOMENON OF GLAUCOMA *

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AUTHOR'S CASE.—Mr. S. C., aged 68, resident of Kentucky on a visit to Memphis, had been given a letter of introduction to me by Dr. J. M. Ray of Louisville. On the night of Dec. 9, 1904, about 9 o'clock, I was called to see him on account of a sudden pain in his left eye, accompanied by bleeding. He had undressed and retired, and afterward felt a desire to go to stool. His bowels moved without straining, and he again retired. After lying down he began to bleed from the left eye, and immediately to experience a severe pain. I found him still suffering such pain as to require half a grain of morphin to relieve him. The eye showed a large clot protruding from a rupture in the cornea, the corneal wound being about 10 mm. long. Oozing of blood was still going on, and the eye was so painful that pressure could not be applied. The bleeding continued for an hour and a half, finally ceasing from the effect of ice-pads lightly applied, or the morphin, or else spontaneously. A light dressing was then applied, and on December 12 the eye was enucleated.

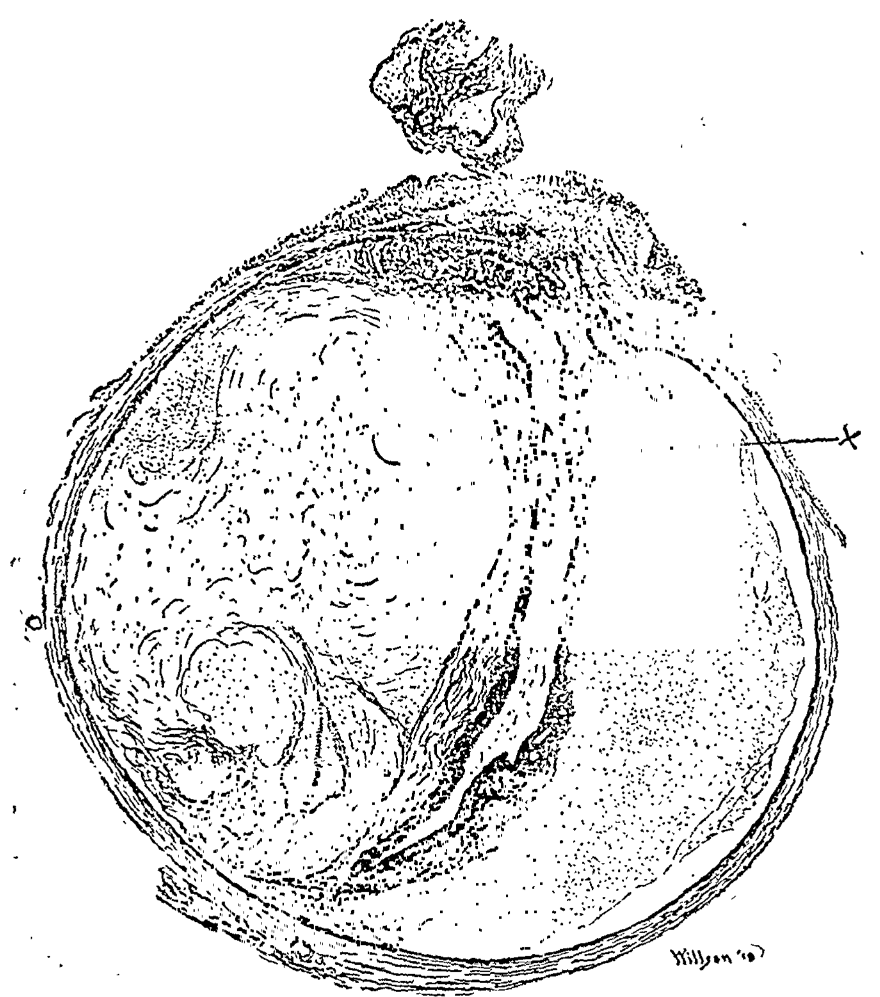

Fig. 1.—A section of the globe under low power. The swollen corneal tissue, infiltrated with round cells, is seen, with a mass attached to it consisting of blood and ocular membranes. The tear in the cornea can be located by tracing Descemet's membrane. The cleft in the center of the ball is formed by folds of the chorioid. At X is a portion of the retina. Between the chorioid and sclera is a large hemorrhage, which has detached both chorioid and ciliary body, folding the latter forward against the iris. The lens is not seen. The section passes well to one side of the disk.

The previous history of this patient is gathered from Dr. Ray's notes, of which he has kindly sent me extracts. Dr. Ray had seen the patient, aged then 65, first in 1901, for an iritis in the right eye. This subsided, with vision 20/30. The left eye, in December, 1901, showed floating opacities in the vitreous, opaque lens striæ and some plastic deposits on the anterior capsule, with synechia. The patient counted fingers at two feet. In 1904 Dr. Ray saw the patient again, with increased tension in the left eye, ciliary injection and hazy cornea. The condition was controlled by physostigmin (eserin), and operation was declined. A few weeks before I saw the patient Dr. Ray examined the eye again. The iris was almost completely adherent to the lens, and looked muddy; the cornea was normal, eye blind, and there was some ciliary injection and lacrimation, tension normal. There was extensive destruction of the framework of the nose, and an old specific history.

To return to what I can relate from personal observation, there was marked arteriosclerosis, urine and heart normal. No cause for the rupture was discovered. There was no history of any sort of injury or straining or effort, if we accept the patient's statement that he had not strained at stool. The eye had been a little red and painful for two or three days, and it is reasonably sure that this was due to or accompanied by an increase of tension, judging from the history as related, and the microscopic appearance of the nerve-head, as subsequently determined. The eye was enucleated under ether and without any accident. The socket healed in the usual time.

The right eye was found to be the seat of an incipient cataract, vision 20/80, with — .75 S. with — .50 Cyl. Ax. 140° = 20/40, add × 3 S. = J. iii. The retinal veins were tortuous and indented by the arteries; arteriosclerosis was present. The nose and pharynx both showed evidences of former specific ulceration, in the shape of extensive scars.

The patient died in the summer of 1909, and as far as could be ascertained the right eye remained good. The cause of death was not learned.

The eye was sent to Dr. Brown Pusey, to whom I am indebted for the report on the condition of the eye, as follows:

"Macroscopically a section in the antero-posterior diameter shows a hernia of the ocular contents through the center of the cornea. The retina and chorioid are detached except at the nerve-head, and these tissues make up the mass of the hernia. The space between the sclera and the detached chorioid and retina is occupied by blood (Fig. 1). The head of the nerve shows deep cupping.

"Microscopically the corneal tissue shows inflammatory changes of marked degree. The tissue is edematous and there is a great increase of cellular elements. There is no necrotic material such as one would find in an ordinary ulcer. The tissue of the limbus region shows the same changes; the new cells here are mononuclear cells. The arteries of the limbus region have markedly thickened walls, and in one set of sections marked inflammatory changes are seen in the outer wall of a large vein (periphlebitis). The prolapsed tissue is made up of vitreous, iris, chorioid, and retina, and all of them are edematous and full of blood. There is little to be made out of a study of the iris, chorioid, and retina except the fact that the iris and chorioid are the seat of a great increase of cellular elements, and the vessels show marked thickening of the walls. (Figs. 2 and 3).

"The most striking changes found in the tissues are the changes in the cornea and the changes in the blood vessel walls. These changes probably explain the bursting of the eyeball and the hernia of its contents."[1]

The peculiar features of this case (I had never encountered a similar one, and Dr. Ray, a practitioner of much larger experience, apparently also had never seen a similar one) led to some search into the literature of the

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Dr. Pusey adds that in his opinion the cornea ruptured first and the blood vessels later from the sudden lowering of intra-ocula pressure. The probable sequence of events will be discussed later, but it would be well to say now that in forming an opinion from examination of the sections one must take into consideration the fact that the eye was not removed for several days after rupture, so that the inflammatory changes in the cornea had time to occu after rupture and before the eye was removed. It cannot be argue from the sections that the cornea was pathologic at the time o rupture.

subject. In all, twenty-two cases have been collected, one reported in 1879 (Cheatham), one in 1881 (Vergely), and the others since 1899. The references quoted by Coppez of cases reported by Baster, Kyll, and Flemming, could not be found. The cases of McKenzie, if they are the ones referred to on page 449 of his book,[2] also quoted by Coppez, are cases of perforating corneal ulcer and not at all similar to the condition under consideration.

The following are the abstract reports of the twenty-two cases referred to:

Vergely's Case.[3]—A woman, 78 years old, with failing vision for three years, and opacity of the right cornea, arose one night and made an effort to urinate, after three days of pain in the right eye. A severe pain was felt in the right eye, followed by a free flow of blood from it. This was found to proceed through a tear in the center of the cornea. The bleeding ceased spontaneously, and the ball atrophied. Vergely thinks that the eye was glaucomatous, and that an intraocular hemorrhage occurred, which raised the tension sufficiently to rupture the cornea. The left eye showed a cataract.

Coppez's Case.[4]—A man, aged 69, had double chronic glaucoma. The right eye had been iridectomized, and showed cupping and atrophy of the disk, with impaired vision and contracted field. The left eye, not operated on, was almost totally blind. The left eye subsequently ruptured during a violent fit of anger, the rupture being characterized by severe pain and free bleeding. The eye atrophied and was removed nine months later. The lens was absent, the chorioid and retina detached, but not expelled.

Professor Coppez's Case (quoted by H. Coppez).—A man, aged 65, had absolute glaucoma in the quiescent stage. Leaning to look under his bed, he was seized with a severe pain in the eye, followed by a free hemorrhage. A central rupture of the cornea was found, from which the ocular contents protruded. The eye atrophied. As this eye had not been seen immediately before the accident, it is not certain that the cornea was not ulcerated.

Wibo's Case.[5]—A woman, aged 65, with the left eye normal, had absolute glaucoma, with exacerbations in the right eye, controlled by pilocarpin. A whitish infiltration extended from the center of the cornea toward the periphery. During a slight effort the eyeball ruptured, and with a profuse hemorrhage the ball emptied itself of its contents and membranes. A horizontal tear occupied two-thirds of the corneal diameter, with ulcerated borders. Evisceration was performed.

Villard's Cases.[6]—*Case 1.*—The patient, aged 65, had simple chronic glaucoma in the right eye. One month after the first examination an attack of acute glaucoma occurred, for which an iridectomy was performed. A year later the eye, which had been comfortable, but had become blind, again became painful and an ulceration of the cornea was observed. This ulcer became infected and the ball ruptured suddenly with hemorrhage and such severe pain as to cause the patient to lose consciousness. The ball atrophied, and about eighteen months later the patient died from softening of the brain.

Case 2.—The patient, aged 74, had absolute glaucoma of the left eye, with pain and hyphemia. Fourteen months later the conditions were about the same, with the addition of superficial ulceration of the cornea. The lower portion of the cornea was slightly bulged. Rupture of the cornea occurred, with subsequent atrophy.

Case 3.—The patient was a man aged 65, with traumatic corneal ulcer, hypopyon, chronic dacryocystitis and increased tension. During an effort at defecation the ball ruptured at the site of the ulcer, severe hemorrhage occurred and expulsion of the ocular contents. The ball atrophied.

Verhoeff and Spalding's Case.[7]—A man, aged 64, had glaucoma, diagnosed as secondary. After two attacks of acute glaucoma, treated medically, he was free from pain for two years. He then had a third attack of glaucoma, at which time the cornea showed a complete yellowish infiltration. Enucleation was refused, and after five weeks the eye ruptured while the patient was quietly talking to his wife. The ball was enucleated. The ocular contents and membranes were found to be extruded. The edges of the corneal wound were infiltrated with polynuclear leucocytes. The globe contained a small round-celled sarcoma.

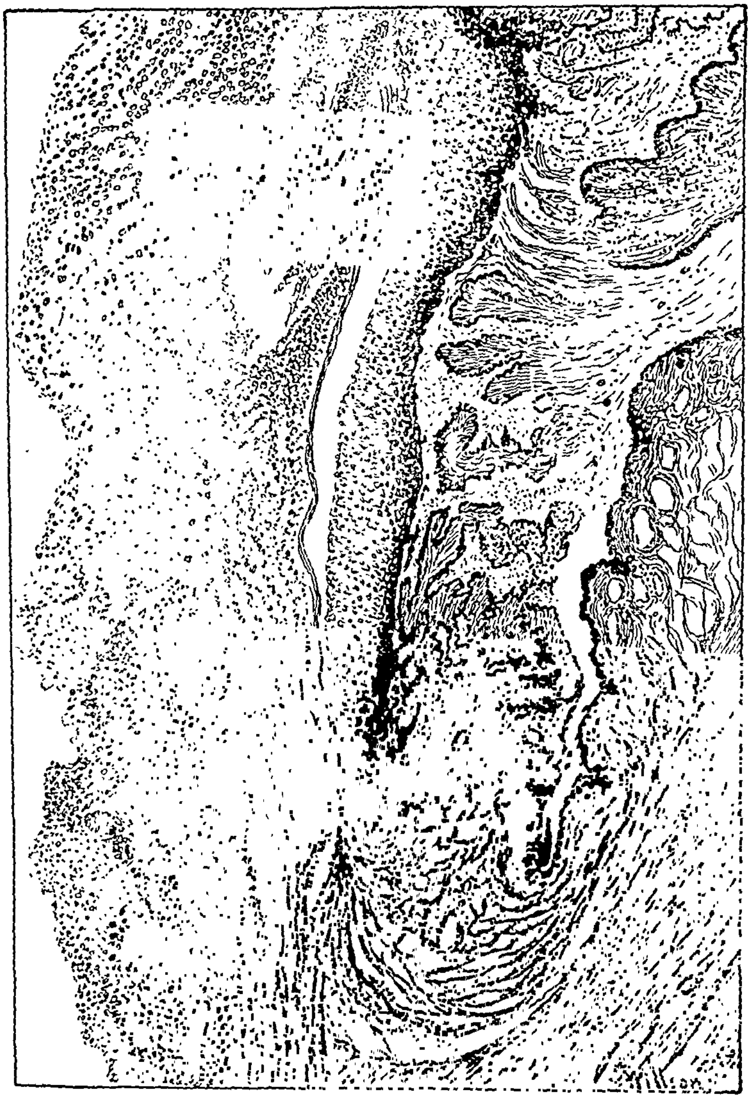

Fig. 2.—The iris, ciliary body, cornea and angle of the anterior chamber are shown under higher power. The thickening and infiltration of the cornea, the tear in the cornea and the detachment and folding forward of the ciliary body are shown.

Millikin's Case.[8]—The patient was a woman, aged 68, blind from absolute glaucoma in both eyes. While she was quiet in her room one eye ruptured, producing a vertical tear of the cornea, extending into the sclera above. Profuse hemorrhage and subsequent atrophy occurred. There was no history of any corneal disease.

Zimmerman's Case.[9]—A healthy woman, aged 56, had a corneal ulcer involving one-half the corneal thickness and almost its entire area, in an eye previously damaged by glaucoma. Without apparent cause the ball ruptured, the tear being horizontal and about 7 mm. long. A large hemorrhage, carrying with it the crystalline lens, occurred. The ball was enucleated.

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[2] McKenzie: A Practical Treatise on Diseases of the Eye, Philadelphia, 1865.

[3] Vergely, P.: Bull. Soc. d'anat. et physiol. de Bordeaux, 1881, ii, 214.

[4] Coppez, H.: Sur les ruptures spontanées du globe oculaire dans le glaucome, Arch. d'Opht., October, 1908, xxviii, 609.

[5] Wibo, M.: Presse méd. Belg., Bruxelles, 1909, lxi, 193.

[6] Villard, H.: Arch. d'Opht., December, 1908, p. 768.

[7] Verhoeff and Spalding: Arch. Ophthalmology, 1901, xxx, 389.

[8] Millikin, B. L.: Tr. Am. Ophth. Soc., 1899, p. 488.

[9] Zimmerman, M. W.: Ophth. Rev., 1899, xviii, 141; Ophth. Rec., April, 1902.

Terson's Case.[10]—A woman, aged 71, with chronic glaucoma in the left eye for eight years, had been blind one year. She had many attacks of pain. A vertical rupture of the cornea was found, with protrusion of the contents of globe. The patient had experienced a violent pain in the eye after going to bed, but this subsided and she went to sleep. An hour later she awoke to find that a hemorrhage had taken place. The protrusion was cut off and the ball healed.

Gamo Pinto's Case.[11]—A woman, aged 63, had absolute glaucoma in the left eye. The right was also glaucomatous, and was operated on (iridectomy) with good results. The cornea of the left eye ulcerated later. After two weeks the cornea ruptured, followed by a profuse hemorrhage and expulsion of the ocular contents and membranes. The eye was enucleated.

Cheatham's Case.[12]—A woman, aged 65, born blind in the left eye, for four years had been subject to attacks of severe pain, lasting several weeks. During such an attack the ball ruptured, the lens escaped and a profuse hemorrhage followed. The ball was enucleated, and the retina and chorioid found to be detached and the ball filled with clotted blood.

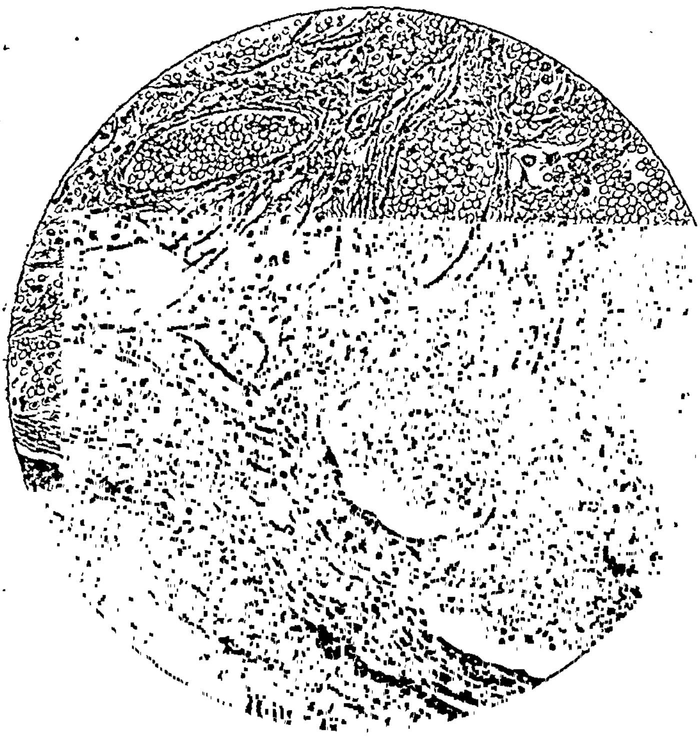

Figure 3.—A section to show the chorioidal vessels under higher power

Bialetti's Cases.[13]—*Case 1.*—The patient was a man, aged 70. The right eye was lost from trauma. For ten months he had had attacks of acute glaucoma in the left eye. In both eyes tension was + 3, the diagnosis being absolute glaucoma with cataract in the right eye, and recurrent glaucoma in the left. The lens was extracted from the right eye with loss of a "quantity of vitreous and blood." In the left eye sclerotomy, and later, iridectomy, was performed. The right eye atrophied, and three years after the operation the left eye ruptured, with violent pain, hemorrhage and loss of the lens and vitreous. The cornea was ruptured parallel with its circumference. The protruding mass was excised and the eye became quiet.

Case 2.—A man, aged 75, had glaucoma in the right eye for thirteen years, during which time he had undergone iridectomy. Rupture of the ball occurred with hemorrhage and extrusion of the ocular contents. Excision of the protruding mass was followed by atrophy of the ball.

Lissigyn's Case.[14]—A woman of 65, blind for a year, had severe hemorrhage with a rupture 4 or 5 mm. long in the lower third of the cornea; described as a perforating ulcer due to glaucomatous degeneration.

Gilfillan's Case.[15]—A woman, aged 87, with paralysis agitans and poor mental and physical condition and arteriosclerosis, had senile cataract and large corneal opacities in each eye, but no staphyloma; no note as to tension. While lying in bed she experienced a sharp pain in the left eye, and when the house surgeon reached her there had been a large hemorrhage from the eye, with expulsion of the lens and prolapse of the iris. The protruding mass was cut away and the eye healed. The rupture was in the center of the cornea and large enough to permit the lens to escape.

Fage's Case.[16]—A man had absolute glaucoma, with exacerbations, in the left eye. At one visit for such an attack the cornea was noted to be sound. Two and a half months later he returned with a horizontal central rupture of the cornea, 3 mm. long. There was no escape of the ocular contents, though the anterior chamber was filled with blood and clots lay in the corneal wound. Enucleation was performed.

Shepherd's Case.[17]—A woman, aged 81, had chronic glaucoma in one eye for a few years. The eye was blind and for a week had been painful. One night the ball burst across the middle of the cornea, this being followed by free hemorrhage and partial escape of the ocular contents. The eye was removed. The cornea did not show any evidences of ulceration.

Ingalls' Case.[18]—A woman, aged 89, had been blind in the right eye for two years. Following a severe pain the eye ruptured, with free hemorrhage and protrusion of the iris through a rent in the lower half of the cornea. The eye was removed and the whole contents found to have been expelled. The margins of the corneal perforation were smooth and not ulcerated.

Hauenschild's Case.[19]—A woman, aged 28, with apparently normal eyes, was seized with a violent pain in her right eye. The next day there was widespread subconjunctival and subpalpebral ecchymosis, and slight exophthalmus. The anterior chamber was entirely filled with blood. The eye was blind. When the blood was absorbed a rupture was seen in the sclera, 1 mm. above the corneal border, into which the iris had prolapsed. The rupture was 6 mm. long and concentric with the corneal border. The blood was absorbed and the eye shrunk. The other eye was normal.

Houdart's Case.[20]—A man, aged 72, was blind in both eyes from glaucoma. The right eye was affected also with a cataract and had been blind four years. While working in a stooping position cutting grass, the patient was suddenly siezed with a frightful pain in the head, vision seemed red, and he fell unconscious to the ground. Three hours later the cornea was found to be ruptured through the middle, an abundant hemorrhage had occurred and the lens and probably other ocular contents had escaped. No intervention was allowed.

Ball's Case.[21]—Ball merely mentions that he has seen such a case.

It will be noticed that the patients, with one exception (Hauenschild), were old people, aged from 56 to 89. Indeed, with the single exception of Zimmermann's patient, aged 56, none were less than 63. In two instances (Fage and Ball) the age is not mentioned. Hauenschild's case is evidently in a different category from all the others, and, excluding this case, the patients were all the subjects of chronic glaucoma. In many of them this was established before the rupture of the eye; in others the subsequent examination or previous history makes the presumption of glaucoma plainly justifiable. The hemorrhage in all cases proceeded from the vessels of the chorioid, and the rupture of the ball occurred in the cornea. In nearly all of the cases these phenomena were spontaneous, there being usually no apparent cause, such as trauma or straining. We might profitably consider this condition, since the number of cases reported indicate that it is not so rare as not to be of general interest, and inquire how it happens, when and why it may happen, and what is our duty in case it does happen.

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[10] Terson, M.: Ophth. Rev., 1901, xx, 47.

[11] Pinto, Gamo: Encyclopédie française d'ophtalmologie, 1906, v, 52.

[12] Cheatham, W.: Louisville Med. News, 1879, viii, 292.

[13] Bialetti, C.: Ann. di ottalmol., 1908, xxxvii, 27.

[14] Lissigyn: Aug. Gesellsch., 1900; Cf. Coppez, H.: Bull. et mém. Soc. franç. d'Opht., 1908, xxv, 287.

[15] Gilfillan, W. W.: Tr. Ophth. Soc., New York, Acad. Med., Arch. Ophth., 1902, xxxi, 66.

[16] Fage: l'Opht. prov., February, 1909; abstr. in Ophthalmoscope, January, 1910, viii, 42.

[17] Shepherd, Cyril: Ophthalmoscope, 1909, vii, No. 7.

[18] Ingalls, J. W.: Tr. Am. Ophth. Soc., 1909.

[19] Hauenschild: München. med. Wchnschr., 1900, No. 31; abstr. in Ann. Ophth., 1900, ix, 657.

[20] Houdart: Clinique Opht., July 26, 1906; abstr. in Ophthalmology, January, 1907, and Ann. of Ophth., xv, 603.

[21] Ball, J. M.: Modern Ophthalmology, Philadelphia, F. A. Davis and Co., p. 418.

In inquiring how spontaneous rupture of a glaucomatous eye comes about, we find a difference of opinion among those who have observed it. Some assert that the rupture of the cornea is primary, and due to the perforation of an ulcer, or the traumatic rupture of an ulcerated or otherwise weakened cornea, the resulting lowered tension permitting the unsupported intra-ocular vessels to break, with resulting hemorrhage. Others contend that the intra-ocular hemorrhage is primary, and that the increased tension causes rupture of the cornea, which may or may not have been previously weakened by disease.

Whichever view we consider, it can be justified by analogy, which is well, since in a given case one cannot always be sure of the sequence of events. In favor of the idea that the rupture of the cornea is primary and the hemorrhage secondary, the occurrence of chorioidal hemorrhage during a cataract extraction could be cited. Here we see the rupture of the chorioidal vessels occur when the corneal incision and evacuation of aqueous has lowered the pressure which supports the vessels. In support of the other theory, that the hemorrhage is the primary event, the occurrence of cerebral hemorrhage might be regarded as analogous. With or without apparent exciting cause, but presumably accompanying an increase of blood-pressure from some cause, the diseased vessel breaks. The question now arises whether a hemorrhage from the choroidal vessels can increase the intra-ocular pressure to such a point that rupture of the cornea will follow. Among those who have reported cases a difference of opinion is found. Villard, Verhoeff and Spalding, Valude (discussing Terson's cases, q. v.), Gamo Pinto, Bialetti and Lissigyn, express themselves more or less emphatically to the effect that the sequence of events is, first, the rupture of an ulcerated cornea, and then the hemorrhage. Verhoeff and Spalding, in particular, question the possibility of a hemorrhage raising the pressure enough to rupture the cornea, since the intra-ocular pressure is already as great as, and dependent on, the blood-pressure. A rupture of an intra-ocular vessel, then, does not, according to these observers, increase the intra-ocular tension. On the contrary, Wibo, Gilfillan, Millikin, Fage and Ingalls think that the hemorrhage preceded, and presumably caused, the rupture in the cases they observed. Shepherd says that the cornea in his patient was normal, and to the best of my belief it was so in my patient as well.[22]

In cases not observed before rupture it may be hard to tell, since all of the ulcerated corneal tissue may be torn away by the passage of the blood and membranes through the rent. While the pathologic report on the case herewith presented speaks of infiltration of the cornea, the fact that enucleation was not done till three days after the rupture gives a sufficient interval to permit these changes to have taken place after the accident. In this connection I would call attention to the drawings of the microscopic sections.

In reference to the point raised by Verhoeff and Spalding, we now believe that the intra-ocular fluids are not secretions, but the product of a filtration process. Such a filtration can take place only when the pressure in the blood-vessels, whence the fluids come, is greater than the pressure within the eyeball, into which the fluid filters. The intra-ocular pressure cannot exceed the blood-pressure, but, on the other hand, it would seem that the blood-pressure must exceed the intra-ocular pressure. It has been shown experimentally[23] that when the intra-ocular pressure is raised to 50 mm. of mercury filtration ceases. This would indicate the intravascular pressure, which is about twice that of the normal intra-ocular pressure. If this is correct, then blood escaping into the eye with a *vis a tergo* equal to the intravascular pressure could exert sufficient force to rupture a weakened cornea.

The occurrence of this distressing accident is predicated on the existence of several conditions. A study of the reported cases would justify one in saying that these conditions are glaucoma, vascular disease and probably an ulcerated or otherwise weakened cornea.

Glaucoma, on theoretical grounds, would not appear essential to the occurrence of this accident, but, in fact, it is present with too great regularity to be regarded as a coincidence. The vascular changes, with increased blood-pressure, necessary to produce the condition in question, seem always to produce glaucoma, a fact easily understood in the light of the now general appreciation of the close relation between glaucoma and vascular disease.

The vascular changes have been more often inferred than demonstrated in the reported cases. While arteriosclerosis is often mentioned as being present, the conditions of the blood-vessels in the enucleated eye are mentioned only by Coppez and Ingalls. Degenerative and proliferative changes in the blood-vessels of the retina and uveal tract are described by these writers, those in the uveal tract being the ones that concern us most. The changes described and illustrated in my own case may be regarded as typical.

It is well known that hemorrhage into a glaucomatous eye may occur without producing rupture of the cornea. Such a case is described by Graefenberg,[24] and they are probably not very rare. They are sometimes erroneously referred to as cases of hemorrhagic glaucoma.

In the absence of the necessary degree of vascular degeneration and increased blood-pressure, the cornea can be ruptured or destroyed in a glaucomatous eye, without precipitating a hemorrhage. The commonest example of this is when an operation, involving corneal section, is performed for the relief of glaucoma. In addition to these common instances, two cases have come under my notice which still further emphasize this point.

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[22] It is interesting to note that at the end of the abstract of Houdart's case appearing in the Annals of Ophthalmology (xv, 603), the reviewer doubts the possibility of any intra-ocular hemorrhage having sufficient force to cause a rupture of the cornea, and thinks that the hemorrhage was probably spontaneous, but the corneal rupture almost certainly caused by the patient striking the eye when he fell unconscious to the ground.

[23] Niesnamoff: Arch. f. Ophth, 1906, xlii, 4; Quoted by Parsons: The Pathology of the Eye, New York, 1906, iii, 967. G. P. Putnam's Sons.

[24] Graefenberg: Arch. f. Augenh., September, 1906, lvi, 1; abstr. in Ann. Ophth., 1907, xvi, 355.

A woman, aged 60, without manifest vascular disease, was attacked with glaucoma in the right eye in September, 1907. Although repeatedly advised by her physician to be operated on she would not consent. I was asked to see her on July 13, 1909, and found the whole cornea destroyed, its place being occupied by the iris, covered with granulations. Enucleation was performed without accident.

A little boy, aged 5, was brought to me for an injury to his right eye from a fall. I found buphthalmia and extensive corneal rupture. There was no intraocular hemorrhage, doubtless owing to the normal condition of his blood vessels. The eye was enucleated.

This is an occurrence, then, that must be put in our category of possibilities in cases of chronic glaucoma of the subacute or chronic congestive type. Simple glaucoma apparently does not cause it, and acute glaucoma would probably cause a scleral ectasia (ciliary staphyloma) instead.

The indications for treatment are briefly stated. The eye is lost and in general should be removed. If not it will atrophy. There is no exception to this in the reported cases in which the eye was not removed. No sympathetic trouble seems to have been so far observed to follow the retention of an eye so damaged, one cause of its non-occurrence being the advanced age, and consequent short subsequent lives, of the unfortunate patients.

Randolph Building.

ABSTRACT OF DISCUSSION

DR. J. M. RAY, Louisville, Ky.: I saw the case reported by Dr. Ellett and had the man under my care for a long while before Dr. Ellett saw him, first at his home, when he was suffering from iritis in one eye, and later on in the other. It continued to recur at long intervals first in one eye and then in the other, up to the time I last saw him. Each attack of iritis was accompanied by increased tension. The iris presented a number of adhesions to the lens capsule and was atrophic. The cornea would become hazy during these attacks and the vitreous contained floating particles. The inflamed condition of the iris and the opacities in the lens and vitreous interfered with a satisfactory ophthalmoscopic examination. The patient while under my care showed nothing more unusual than a relapsing iritis of a subacute character, accompanied by increase of tension during the attacks only. Stigmata of former specific disease in pharynx and nose were present. I advised him to have an iridectomy done, not so much because of tension, which was never very great at any time I saw him, but to check the relapsing iris inflammation that was leading to degenerative changes in the ciliary body and chorioid. I can see very well how an acute glaucoma could have developed between the time I last saw him and the time of Dr. Ellett's visit. I believe that tension in an eye otherwise degenerated from an old irido-chorioiditis could have produced sufficient interference with the nutrition of the cornea to lead to its rupture, and then the hemorrhage, occurring as a result of the removal of the normal resistance on the walls of the sclerosed retinal and chorioidal vessels.

It would seem to be impossible that the tension in an eye from rupture of a blood-vessel in its interior could be greater than the pressure in the blood-vessel that was the seat of rupture. Therefore, knowing the great resisting power exerted by the ocular tunics, it seems unreasonable for such a condition to take place in an eye where the ocular structures are of normal resistance.

From a consideration of the report made by Dr. Ellett and the eye as I saw it, it appears to me an ideal case for the occurrence of such a condition. Relapsing attacks of iritis, each attack accompanied by glaucomatous symptoms, with, eventually, degenerative changes in all the ocular structures, are the ones in which acute hemorrhagic glaucoma are liable to occur. While I feel sure the patient did not suffer from corneal ulceration, the changes preceding the fulminating glaucoma were such as would interfere seriously with the nutrition of his cornea and make it less resistant to an acute attack of tension.

Three weeks before he was seen by Dr. Ellett he presented some ciliary injection, no great tension, a degenerated iris, and a hazy cornea. I gave him a letter to Dr. Ellett, fearing he might have trouble while on his visit to Memphis. I have no note of the arterio-sclerosis, but his family physician had been treating him for rheumatism. He died most probably from cerebral hemorrhage, as near as I could get at the facts on inquiry.

DR. S. L. LEDBETTER, Birmingham, Ala.: Last fall, at the meeting of the Southern Medical Association, at New Orleans, I read a paper in which I reported a case of double glaucoma with ruptures occurring at an interval of a year. The case was first seen by Dr. Sibley, of Birmingham, and the eye removed after the rupture. Just one year later I was called to see the same patient under similar circumstances; the ball had ruptured. The history, as I got it, showed clearly an inflammatory glaucoma. There had been a history of severe pain for two or three days, with intense pain just before the rupture, and when I saw the case there was a wide, open wound, and the ball was filled with clot. The patient was an elderly woman, 65 years of age, with probably arteriosclerosis. I learned that she died two or three months after the last operation. I do not know the cause of death. The case was interesting to me because of the history of having lost both eyes from the same condition. The attending physician told me he had seen her but once or twice before sending for me; that the eye was in an inflammatory condition, with a haziness of the cornea. Dr. Ellett was at the meeting at New Orleans, but left before I read my paper, so I do not charge him with any negligence in not mentioning my case.

DR. R. H. T. MANN, Texarkana, Tex.: I agree with Dr. Ray that the intraocular hemorrhage had nothing to do with the rupture of this cornea, or it does not ordinarily. I have a patient, a physician, who came into my office with a degenerated eye and said: "I want to show you something very peculiar about this eye." He held his head down, and immediately the anterior chamber filled with blood. I do not know the cause of it, but he said it had been so for years. He could produce the hemorrhage at any time. I could not see the back of the eye. I advised him to have it enucleated. He still has the eye. I have seen it a number of times. It certainly shows to me that the blood in the eye would not produce the rupture.

DR. E. C. ELLETT, Memphis, Tenn.: Since the presession reprints appeared Dr. Lewis H. Taylor has written to call my attention to a case which he reported to this Section in 1908 (*Tr. Sect. on Ophth., A. M. A.*, 1908, p. 125) in discussing Dr. Black's paper on "Cardio-vascular Diseases." This was overlooked because titles were consulted in searching for other case reports. Dr. Taylor's case was one of repeated intraocular hemorrhages, with resulting increase of intraocular pressure and rupture of the ball, somewhat different in character from the other cases which I have quoted. In addition to one case reported by Dr. Verhoeff, which I have quoted, he has called my attention to another case of rupture associated with chorioidal sarcoma reported by him in the *Archives of Ophthalmology*, 1904, xxxiii, No. 3. He has also protested against what I had to say in regard to his views on the question of whether the corneal rupture or the hemorrhage was the primary incident. I am glad to quote from his letter, and to say that it was far from my intention to misrepresent anyone, nor can I see that I have done so:

> "In your discussion of the case of rupture of the cornea due to intraocular sarcoma reported by Dr. Spalding and myself, I think you give a wrong impression as to our view in regard to the cause of the rupture. In the first place we did not come to a positive opinion as to whether the hemorrhage was primary or secondary, but at that time simply regarded it as more probable that it was secondary. You state that 'a rupture of an intraocular vessel then, does not, according to these observers increase the intraocular pressure.' What we actually said was that 'it is doubtful if an intraocular hemorrhage would appreciably increase the pressure in an eye already under a high tension, for the increase in pressure could be no greater than the difference between the pressure of the blood within the ruptured vessels and the pressure already present in the eye.' What we meant by this was that since the eye had been under an extremely high tension for several weeks, as indicated by the clinical history, the added pressure due to an intraocular hemor-

rhage would probably be too slight to explain the rupture of the cornea if the latter was intact, and if the latter was ulcerated it would be more reasonable to suppose that the ulcer was due to high tension. You imply that we did not know that the intraocular pressure of a normal eye is much less than the blood pressure. This fact is of course known even to a tyro, and the above quotation shows that we were aware of it. You will be interested to know, however, that I later definitely determined that the hemorrhage was primary in this particular case. I am sending you a reprint in which I explain this (page 248, Case 3). In this paper I also report another case of the same kind (Case 2) which I am sorry that you could not have included in your list. In this paper also you will notice that I call attention to the case with which an intraocular sarcoma may be overlooked in an eye filled with blood, and I have no doubt that many have been so overlooked. In regard to spontaneous rupture of the cornea in glaucoma in general I am sure that the hemorrhage may be either primary or secondary, but as to which is the more frequent I am still undecided."

LUTEIN EXTRACT IN THE TREATMENT OF DECREASED MENSTRUATION AND THE PREMATURE MENOPAUSE

ELLICE McDONALD, M.D.
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Disturbances of menstruation are always difficult of treatment. The factors which cause and control menstruation are so little known and understood that treatment is largely empirical and experimental. Investigation into the function of the ovary and its influence on menstruation and pregnancy are, however, beginning to shed new light on these processes, and give hope of the relief of these conditions by scientific treatment.

INTERNAL SECRETION OF THE OVARY

The function of the ovary and the effect of its internal secretion are becoming better understood, and the influence of the corpus luteum on menstruation and pregnancy are now being studied experimentally in animals.

Brown-Séquard[1] appears to have been the first to suggest an internal secretion for the ovary and supposed that it was concerned in the secondary sexual characteristics. Since then many investigators have sought the presence and mechanism of the production of this internal secretion. Gustav Born[2] first suggested the hypothesis that the corpus luteum of the ovary was a gland with an internal secretion which affected the uterus and presided over the nidation and development of the ovum. Fraenkel,[3] by means of extensive experiments claims to have maintained Born's hypothesis that the corpus luteum is a gland with an internal secretion and that the corpus luteum causes the menses. He claims that as the corpus luteum is an organ sharply defined from the rest of the ovarian substance, and surrounded by connective tissue, histologically it resembles a gland, being similar to the liver or suprarenal. He holds that there is no essential difference between the true and false corpora lutea, which are ovarian glands controlling the nutrition of the uterus from maidenhood to menopause and causing insertion and development of the fertilized egg, and menstruation when the egg remains unfertilized.

TROPHIC INFLUENCE OF CORPUS LUTEUM

These facts are upheld by a long series of his experiments on rabbits, in which he found that if the corpus luteum was destroyed during the early part of pregnancy, while embedding of the ovum was in process, pregnancy always terminated. The trophic influence of the corpus luteum, carried by the vessels, is exercised on the uterus and is necessary to the insertion of the egg. The influence of the so-called false corpus luteum was also determined on non-gravid animals by burning them out, when temporary atrophy of the uterus occurred. Also, in a number of non-gravid women at operation, the corpora lutea were burned out, with the result that menstruation remained absent for one or two periods.

Daels[4] attacks Fraenkel's conclusions as being too sweeping. He denies the hypothesis of a specific function of the corpus luteum in regard to the embedding and development of the ovum. He also denies that the development of the corpus luteum, with its internal secretion, produces menstruation or that maturation of the follicle and menstruation are in a regular causal relation to each other.

While Fraenkel's conclusions are sweeping and can be maintained only by facts very difficult of proof, Daels' denial of the value of his work in its entirety is unjustified, and it may be considered proved that while maturation of the follicle and the secretory action of the corpus luteum may not cause the menses, at least menstruation is much influenced by it. We know undoubtedly that menstruation cannot occur without the ovaries and that the formation of the corpus luteum is a periodic affair, and may be of the same periodicity as menstruation. It is probable, therefore, that the corpus luteum may have an action on the uterus as a hormone, or "chemical messenger." Just as the injection of dilute mineral acid into the duodenum provokes a secretion of pancreatic juice, so the secretion of the luteum may stimulate the uterus to menstruation or aid in embedding the ovum.

Kleinhaus and Schenck[5] have brought additional evidence of the influence of the corpus luteum on fertilization. Their experiments show that, after the embedding of the ovum, destruction of the corpus luteum does not cause interference with the pregnancy; but before the ovum is embedded, termination of the pregnancy usually occurs.

INFLUENCE OF THE OVARY ON UTERINE NUTRITION

Carmichael and Marshall,[6] from their experiments on rabbits, also show the great influence of the ovary on uterine nutrition. They state that removal of the ovaries in young animals prevents the development of the uterus and Fallopian tubes. These remain in an infantile condition, but otherwise, the growth and general nutrition of the animals seems unaffected. They state that removal of the uterus in the adult animal does not give rise to any degenerative change in the ovaries if the vascular connections of the latter are intact. Bond,[7] however, claims there is evidence that there is a substance, a clear watery saline fluid, of low specific gravity, which is elaborated in the uterus between menses, which stimulates the growth of the corpora lutea, and that its absence favors overgrowth of the lutein tissue in the ovary. Holzbach,[8] however, has shown that the ovaries will persist in their function in women after removal of the uterus, and that an adequate amount of ovarian tissue, capable of function, was found in four patients, reexamined several years after the first operation of hysterectomy.

Rebaudi[9] had also shown that the removal of the ovary is prone to cause a compensatory hypertrophy in the other glands of internal secretion. He removed the ovaries in animals and found within two weeks a gradual progressive hypertrophy of the islands of Langerhans in the pancreas. He then found that when the corpora lutea alone were destroyed with the cautery, the changes occurring in the islands of Langerhans were essentially similar to those which occurred when the whole ovary was removed. He presents this as direct proof that the corpora lutea are organisms of internal secretion, and that they represent the main, if not the only, tissues of the ovary having an internal secretion.

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[1] Brown-Séquard: Compt. rend. Soc. de biol., 1889.

[2] Born: Quoted by Fraenkel, Arch. f. Gynak., 1903, xviii, 438.

[3] Fraenkel: Arch. f. Gynak., 1903, lxviii, 438.

[4] Daels: Surg., Gynec. and Obst., February, 1908.

[5] Kleinhaus and Schenck: Ztschr. f. Geburtsh. u. Gynäk., 1909, lxi. 2.

[6] Carmichael and Marshall: Brit. Med. Jour., Nov. 3, 1907.

[7] Bond: Brit. Med. Jour., July 21, 1909.

[8] Holzbach: Arch. f. Gynäk., 1905, lxxx, 2.

[9] Rebaudi: Gynéc. mod., December, 1908.

INFLUENCE OF THE THYROID AND SUPRARENAL GLANDS ON SEXUAL CHARACTERISTICS

The influence of the thyroid amongst glands of internal secretion on the menstruation and sexual characteristics is not unknown. Disturbances of menstruation are common with exophthalmic goiter. Patients under my care have had menstrual disturbances following thyroid medication for obesity. The menstrual flow was more profuse, and in some cases, twice monthly. Galante[10] reports three cases of goiter in which there was marked change in the menstruation following galvanization of the thyroid gland.

The suprarenal gland has been shown in a forcible manner by Bullock and Sequeiria to have an influence over sexual development. Several cases in which the suprarenal was the seat of a tumor were collected, and showed that there was marked precocious sexual development in children, with development of the uterus and secondary sexual characteristics.

These evidences of the effect of the glands (other than the ovary) with an internal secretion, show that it is possible that compensatory action may occur in the absence of the direct ovarian or lutein internal secretion.

OVULATION

The time of ovulation is not, as a rule, synchronous with menstruation, but rupture of the follicle may occur at any time in the menstrual cycle. Leopold and Havano,[11] from the investigation of 95 cases at operation, found that in only 59 did ovulation occur at the same time as menstruation, so that it is possible that ovulation may occur at any time in the month. Villemin[12] states that rupture of the follicle usually occurs ten or twelve days before menstruation, and that the period after rupture corresponds to the production of the corpus luteum. These facts are interesting in determining the time at which lutein therapy should be applied each month.

It is obvious, therefore, that the consensus of opinion of experimenters and investigators is that even if the corpus luteum of the ovary is not the cause or exciting stimulus of menstruation, at least this internal secretion of lutein has a distinct influence on the production of menstruation. Therefore, it is possible that if this lutein or corpora lutea is supplied to the organism, menstruation may be influenced in some degree. With this aim, numerous investigators have obtained corpus luteum extract of the ovary from animals, with the hope of being able by opotherapy to influence menstruation and particularly, the surgical menopause.

Fraenkel reported good results with the lutein extract, and Ferroni[13] made a study of the effect of injections of corpora lutea of the ovary in animals, and reported much better results from the lutein alone than when the whole ovary was used. He believed that the effect of the injected corpora lutea was cyclic, and that there was profound metabolic change. Magalhaes[14] also reported good results with the lutein extract clinically. Many others have reported good results.

CLINICAL EXPERIMENTS

With the hope of being able to benefit some of the persistent cases of premature and surgical menopause, I have been for nearly five years experimenting clinically with a desiccated extract of corpora lutea of the ovary of cows, obtained by skinning the outside of the ovary with a sharp knife in order to obtain as much of the essential substance as possible, drying and powdering. The cow was chosen on account of the relatively large amount of lutein cells present.

I did hope to continue this study until 100 cases had been treated and the results studied, when more definite conclusions might be formed and correct therapeutic indication decided; but the publication of an article by Morley,[15] with conclusions contrary to mine, led me to report this small series of 20 cases at this time. Morley, using the same product, supplied the lutein extract to ten physicians, who returned a report of 18 cases to him. Fourteen were cases of surgical menopause, and one physician treated as many as five. It is needless to say that in a condition as obscure as the surgical menopause, as easily subject to spontaneous variations of condition, and as dependent on the individual verbal report as to the condition, this form of investigation is to be deprecated. The surgical menopause is a condition which time cures and psychotherapy may benefit. It can not be expected that definite conclusions can be drawn from one case or therapeutic indications be discovered by five. I have, therefore, been induced to report this small series with the hope that physicians may not be led to expect to find in lutein extract a universal panacea for that protean disturbance, the surgical menopause.

I have treated in all twenty cases. Ten of these cases were of scanty menstruation or approaching premature menopause. Ten were cases of surgical menopause. These cases will be discussed according to these two classes.

PREMATURE MENOPAUSE

The condition of premature menopause is one which attacks comparatively young women, between twenty and thirty-five years, and is marked by lessened menstruation, with various nervous manifestations, such as headaches, flushes and other neuroses. The condition is said by some writers not to occur before 33 years, but the establishment of the complete menopause often extends over several years, and the first effects of the condition are frequently to be observed in much younger women. It is usually associated with the lack of sexual function, as the condition is more common among spinsters and quite often dates from an illness or some definite change in nutrition or environment. This lack of sexual function in these women is curiously in consonance with the experiments of Bond who found that, in unilateral oöphorectomy in animals, the hypertrophic changes in the ovary with the formation of corpora lutea were maintained if repeated copulations were allowed.

In these ten cases of scanty menstruation, seven patients were benefited by the administration of extract of corpora lutea, gr. v. (0.3 gm.), three times daily before meals. The earlier the case was treated, the more definite seemed to be the results. The three chronic cases, in which the patients were not benefited were well-established cases with marked nervous symptoms, and did not respond to the treatment. One of the patients improved after dilatation of the cervix with the administration of the corpora lutea extract; but as it was doubtful whether the corpora lutea extract, which had been ineffectual, without the operation, was in any way responsible for the improvement, the case was classed amongst the unimproved.

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[10] Galante: Ann. di elettr. med. e terapia fisica, 1909.
[11] Leopold and Ravano: Arch. f. Gynäk., 1909, lxxxviii, 3.
[12] Villemin: La Gynecologie, May, 1908.
[13] Ferroni: Ann. di. Obstet. Gynec., May, 1907.
[14] Magalhaes: Brazil med., Aug. 22, 1907.

[15] Morley: Jour. Mich. State Med. Soc., November, 1909.

The menstruation, in the seven cases of improvement, increased in amount and duration of flow. Two patients reported marked change in the character of the flow. In one very remarkable case, the patient was brought back to her normal duration of flow, of four days, while taking the lutein extract, and while untreated, menstruated two days. She was treated for three alternate months and flowed four days, while at the three alternate months untreated, she flowed two days. This seemed definite evidence of the effect of the corpora lutea in this case.

SURGICAL MENOPAUSE

Amongst the ten cases of surgical menopause, one patient was made distinctly worse, and the treatment had to be discontinued. Five were not improved and four reported some improvement. The patient who was made worse had had hysterectomy for fibroid tumor, in which an ovary had been left. The treatment was begun immediately after the operation, and caused such severe disturbance at the time of the expected menstrual period that treatment was discontinued. The patient did not suffer as markedly from the surgical menopausal symptoms after the discontinuance of the lutein extract. It is possible that the lutein excited the activity of the remaining ovary.

Another case was one of removal of both tubes and one ovary, with resection of the second, in the hope that by leaving a remnant of the ovary menstruation would continue. The remnant of the ovary remaining was about 2 by 1 cm. The menstruation did not appear for three months; after treatment for one month with lutein extract, menstruation reappeared and continued regularly thereafter. The small remnant of ovary has swollen to the size of a hen's egg, and there is pain in that region before menstruation. It is thought that the enlargement is cystic in character.

The remaining cases of surgical menopause in which the patients were benefited by the lutein extract were those in which the treatment was begun after operation, and there was no way of judging how severe the menopausal symptoms would have been without treatment.

The five patients not benefited had had hysterectomy where the menopausal neurosis was well established.

Thus, in the ten cases of surgical menopause, only one patient was definitely helped. Five were absolutely uninfluenced, and three were doubtful.

If patients with surgical menopause, in whom the uterus has been removed, are expected to be benefited by the lutein extract of the ovary, why are not those patients who have had hysterectomy, with retention of the ovaries, much benefited by the presence of these lutein-forming organs with their internal secretion? Holzbach[16] has shown that the ovary after operation retains its function, and he also states that those patients who retain a functioning ovary suffer in a more marked degree from symptoms of the surgical menopause. The majority of gynecologists now, I think, believe that the retention of the ovary after hysterectomy is ineffectual in the control of the surgical menopause, unless sufficient of the uterus remains to allow menstruation.

INTERNAL SECRETION ONLY ONE FACTOR

The manifestations of the surgical menopause are too varied and extreme to allow explanation by the mere absence of the internal secretion of the ovary. The internal secretion of the ovary is but a factor in the process of the menstrual life. It may be the hormone or "chemical messenger" which stimulates the uterus to one of its functions. Let no one expect to control these physical changes and nervous alterations of the surgical menopause by the supply of an artificial internal secretion of the ovary unless, at the same time, a new uterus to menstruate can be supplied.

But the study of this condition of surgical menopause, with its nervous and often psychopathic symptoms, is one fraught with many pitfalls. Patients are often so influenced by any treatment that it is difficult to decide which is the help. Time cures the condition and the treatment often gets the credit. I have had patients benefited by Eddyism, osteopathy, cold baths and chromium sulphate. However, in my ten cases of surgical menopause, I cannot be sure that any patient was definitely helped except that one in whom the uterus was retained. Gellhorn[17] has reported a somewhat similar case, in which menstruation, which had been absent for six months, reappeared after the administration of ovarian extract, and a regular flow ensued.

Amongst the seven cases of scanty menses or premature menopause, definite improvement resulted. In all cases there was an attempt at the same time to improve the nutrition. Three married women voluntarily stated that there was a definite increase in sexual desire. I did not question any in this regard. One patient, a woman over 45, with commencing menopause, has been under treatment for three years, with the result that the menses are still regular, and after she had been under treatment for eight months she conceived and miscarried. Her last child was born 18 years before this. She still continues the medication in the hope that she has discovered the fountain of youth.

The greatest result in every case was obtained when treatment was begun early and when the treatment was given over at least two weeks of each month. A few patients complained of nausea after meals or in the morning during the treatment.

CONCLUSIONS

The results of this study, small though it be, extending over five years, seems to indicate that the control of the surgical menopause need not be sought in the corpora lutea. Its value is in cases in which the uterus and ovaries or uterus alone are retained. Particularly is it valuable in the treatment of scanty menstruation and the premature menopause. I have treated a number of cases at the outdoor dispensary of the Kensington Hospital for women, with extract of the whole ovary, and never saw any definite results therefrom. But the lutein extract, being the essential part of the ovary, does seem to help in some degree, and should be accompanied in suitable cases, by dilatation of the uterus, with the use of the stem pessary following operation, as advised by Manson.

At least, the administration of lutein is indicated after operations on pregnant women in whom miscarriage is feared. This is particularly true in the early weeks of pregnancy, during the embedding of the ovum, as it has been shown experimentally that the corpus luteum has a definite effect under such circumstances.

174 West Fifty-eighth Street.

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[16] Holzbach: Arch. f. Gynäk., 1905, lxxx, 2.

[17] Gellhorn: Zentralbl. f. Gynäk., Oct. 17, 1907.

THE RELATION OF STUTTERING TO AMUSIA *

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I have elsewhere[1] defined *stuttering* as "a condition in which, through lack of coordination of the nervous mechanism controlling the organs of speech, which may include either excessive or deficient innervation, there is a difficulty in enunciation which may comprise either spasmodic effort without articulate sound, or frequent repetition of the same articulate sound before the utterance of the one following. With it may be associated compensatory spasm of muscles not directly involved in speech." While this definition, an adaptation of those of others, seemed satisfactory to me at the time, I have since come to realize that like those of others, it is simply an enumeration of symptoms. To my mind there has never been a satisfactory explanation of the cause of stuttering. To treat it as a neurosis, "a mental tic," is not going far enough. A neurosis it undoubtedly is, after the establishment of the compulsive idea, but calling it such does not explain why certain individuals under the influence of fright, imitation, acute disease or nasopharyngeal irritation, begin to stutter while others equally neurotic and exposed to the same influence do not.

ETIOLOGY

The observations of Scripture[2] emphasizing the fact that practically all stutterers habitually speak in a monotone, are most important, not only from the standpoint of treatment, but also as having a bearing on the etiology. That the monotonous voice is a factor in the causation of stuttering does not at all conflict with Claiborne's suggestion[3] that stuttering should be classed among the conditions caused by congenital defects in the centers controlling speech. In a paper[4] read a short time ago before the National Association for the Study and Education of Exceptional Children, I placed stuttering among the group of developmental defects caused by biologic variations in centers and commissures through which are derived perceptions of music and rhythm. If we accept the theory held by Edgren and others that the different forms of amusia are dependent on damage to special centers and commissures which are adjacent to, but not identical with, those whose damage gives rise to the corresponding forms of speech defect, we must assume that an auditory center for tones will correspond with the auditory word-center, a kinesthetic tone-center with the kinesthetic speech-center and a visual center for notes with the visual word-center.

According to Bastian,[5] "the existence of tone-deafness as an isolated and inherent defect is probably far from rare." There are persons who are incapable of discriminating between the two notes of an octave and who notwithstanding the most frequent opportunities of hearing music remain quite incapable of distinguishing one tune from another. Variations in the kinesthetic center or its commissures would account for the inability of some individuals to "carry a tune." There are some persons who, while possessing a "musical ear," are still unable to reproduce what they have heard. I have, on a previous occasion,[4] drawn attention to the connection between amblymusia and idioglossia.

Nature is all curves and harmony. We are constantly receiving, through the special senses, impressions suggestive of modulation, inflection and consonance. On the visual center are registered impressions of form derived from the contour of hills and sky, from the flight of birds, the waving of the branches of trees, the falling of leaves; on the auditory center, from the sound of running water, the soughing of the wind, the rustle of leaves, the songs of birds; on the centers controlling the sense of touch are registered the impressions received from the handling of smooth and rounded objects, and on the general kinesthetic centers the impressions of rhythmical movements made in walking, running, bending, climbing, breathing, etc.

It seems therefore not unreasonable to suppose that these various impressions, registered as they are, in areas of which the centers concerned in speech are a part, have much to do not only with its development, but also with the proper control of the nervous mechanism of the speech-forming organs. To state more clearly, it would appear that impressions of modulation, inflection, consonance and rhythm are registered on special centers which are a part of the general visual, auditory and kinesthetic areas, and that each of these beside being in direct relationship with the word-center of the particular area of which it is a part, is also in commissural relationship with the corresponding centers of other areas.

I further believe that the monotonous voice of the stutterer is the result of a biologic variation in one of the music centers or its commissures, most likely, in the kinesthetic center or the commissure between it and the auditory music-center. It may be held that not all those with unmelodious voices stutter. While they may not do so habitually I believe it will be found that they will sometimes stutter, especially when laboring under strong emotion or fatigue, or when in poor physical condition. The child does not stutter from the time he begins to speak but if he is the possessor of a monotonous voice he will do so as soon as he is subjected to one of the exciting causes mentioned above or to reflex irritation from any source, be it eye-strain, phimosis, adenoids, or worms. The compulsive idea then becomes fixed. I have been asked why, if stuttering bears the relation to amusia which I claim it does, many stutterers are able to sing. I think this fact can be explained on the same basis that Dercum explains the same ability in some cases of aphasia. He says:[6] "The curious instance of the singing aphasics can only be met by a similar explanation (reenforcement). For instance, I had under my care some years ago a Broca aphasic, whose speech was limited to "yes," "no" and a few brief expletives. He could, however, sing—among other things—"Auld Lang Syne," carrying the air well and enunciating each word clearly. No other explanation, it would seem to me, than that of reenforcement overcoming inhibition can apply in such a case."

METHODS OF TREATMENT

If we accept the theory that stuttering is due to biologic variations in centers which are a part of or are closely associated with centers making up the zone of language, the reason for the success and failure of many empirical methods of treatment of this disease are apparent. Practically every method that has been suggested is based both on distraction from the compulsive idea and on oft-repeated impressions of correct speaking. In other words, the patient receives from his instructor auditory and visual impressions of properly inflected and articulated words, and further than this by repetition educates his own brain cells, assisting them to perform their proper function in unison with other cells, or by forcing the opposite hemisphere to supply a center similar to that which is imperfectly developed. This is done principally through the glosso-kinesthetic center acting in conjunction with the various music-centers. Failure to cure and relapse after apparent cure are due to development of the glosso-kinesthetic center, with failure to bring about functional relationship with the music-centers. The "melody cure" advocated by Dr. Scripture fulfills all the indications necessary for a complete cure beyond danger of relapse. It should, however, be persisted in until every assurance is felt that the centers controlling melodious speech have assumed the necessary state of activity. Every effort should be made to imprint musical impressions through every available avenue, and to allow every possible opportunity for their expression. It is a well-known fact that music, dancing, rhythmical movements, drawing, etc., are great aids in the development of speech and of general cerebral activity in the backward and feebleminded.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Stuttering in School Children; Its Prevalence and Treatment, St. Louis Med. Rev., August, 1909.

[2] Scripture, E. W.: Treatment of Stuttering and Stammering, Med. Rec., New York, March 21, 1908.

[3] Claiborne, J. Herbert: THE JOURNAL A. M. A., April 18, 1908.

[4] Biological Variations in Higher Cerebral Centers Causing Retardation. Paper read before The National Association for the Study and Education of Exceptional Children, April 21, 1910.

[5] Bastian, H. Charlton: Aphasia and Other Speech Defects, p. 295.

[6] Dercum, F. X.: The Interpretation of Aphasia, Am. Jour. Med. Sc., November, 1909.

Another great aid in the treatment of this class of cases is the reversal of dexterity as advocated by Claiborne.[3] It is generally conceded that in right-handed individuals the complicated mechanism of speech is controlled by the zone of language in the left cerebral hemisphere.

"It must needs be admitted that there is a general auditory, a general visual area, and a general kinesthetic area in the right hemisphere, and that incoming stimuli make on it an impression similar to that which they do on the so-called "educated" hemisphere. These impressions are bilateral in reception, but unilateral in interpretation. This unity of interpretation is determined by commissural fibers of the corpus callosum. Now the same factors that determine right-handedness determine also that the left hemisphere shall be the executive speech side, but the elementary work is done on both sides."[7]

Now as Claiborne says,[3] "It is in the highest degree unlikely that a congenital defect should occur on both sides of the brain and in the same place."

In a biologic variation in brain-centers not so much can be expected from restitution of non-functionating cells as from a process of functional compensation, brought about by the undamaged hemisphere gradually taking on new or greatly developed functions.

General kinesthetic impressions have a decided influence on the development of the speech-centers as is proved by the marked improvement shown by cerebral hemiplegics after tenotomy. The more frequent and dexterous use of the muscles of one side would, therefore, assist materially in the development of the speech-centers of the opposite hemisphere.

I have reported two cases of congenital word-blindness in boys both of whom were originally right-handed who learned to read after they had become proficient in the use of the left hand together with special training. In one,[8] a youth of twenty, who stuttered very badly, I noticed a decided improvement in speech soon after he had begun to use the left hand. In fact, although I had had him under treatment for several months I had been unable to get him to speak with any degree of inflection, until after he had begun the use of the left hand. His subsequent improvement in speech was very rapid. It has been my custom for the past year, in addition to giving all my stuttering patients exercises directed toward correcting their various defects of speech, to advise them to use, when right-handed, the left hand in preference to the right. I am fully satisfied of the value of this procedure, and while I do not believe that the reversal of dexterity will in itself correct stuttering or any other developmental defect due to a biologic variation in special cerebral centers, I do believe that it will prove itself a very valuable aid when taken in conjunction with other approved methods of treatment.

CONCLUSIONS

While incapable of proof, it is reasonable to suppose:

1. That the defective use of the muscles of inspiration, expiration, and of the lips, tongue and throat, resulting in stuttering is the "result of imperfect coordination, caused by disconnected and erratic discharges from the cortex."

2. That this incoordination is between the nervous mechanism controlling the acts of vocalization and articulation and the centers having for their function the appreciation and expression of melody and harmony, and is due to a biologic variation in such a center or its commissures.

3. That the cure of stuttering is only accomplished by a process of compensation brought about by the education of cells previously non-functionating, and by forcing the opposite hemisphere to supply a center similar to that which is imperfectly developed. To this end the reversal of dexterity would seem to be a reasonable procedure.

242 South Highland Avenue.

THE TREATMENT OF FURUNCULOSIS

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By furunculosis is generally meant the repeated outbreak of furuncles either singly or in numbers, extending over a period varying from several weeks to many months and even years.

As to the etiology of this condition the last word has by no means been said. We know that a furuncle is usually, if not always, caused by the infection of a hair or sebaceous follicle with the *Staphylococcus pyogenes aureus*. We know that furuncles are propagated by auto-inoculation, the new lesion being produced by infection from an old one. We know that diabetes, debility, and albuminuria are conditions that may increase the susceptibility of the individual to infection in this way. We know that the development of furuncles is facilitated by external irritants to the skin, of whatever nature. Apart from the above etiologic factors which are present in only a small number of instances, we do not know what it is that produces in the majority of the cases this peculiar susceptibility to inoculation of the follicles with the staphylococcus.

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[7] Collins, Joseph: Ref. Handb. Med. Sc., i, 419.

[8] Congenital Word-Blindness as a Cause of Backwardness in School Children: Report of a Case Associated with Stuttering, Pennsylvania Med. Jour., January, 1910.

With regard to the treatment of individual furuncles, many and various are the methods resorted to. It is not my purpose to enlarge on these procedures, or their relative efficiency. Suffice it to say that I do not believe that early incision shortens the duration; nor do I believe that poulticing is to be recommended, except in rare instances, as it is contrary to aseptic principles.

In calling attention to a method of treating the skin of those afflicted with furunculosis that has proved universally effective in a large number of cases during the last fifteen years, I do not wish to detract in the slightest degree from the vaccine method. I have seen the most brilliant results from the latter treatment, remarkable for the quickness with which relief was afforded. I know of no method that compares with it, in a certain number of cases. Nevertheless, it is not successful in all cases, and I have happened to have a considerable number of cases that had been treated by the vaccine method by most competent people without any success, that have yielded to the local treatment that I am about to describe.

No originality is claimed for this treatment. Some of its principles were suggested to me many years ago by Dr. James C. White. In many of the text-books some of its essentials are referred to. The principle is simply to keep the skin as far as possible sterile.

In the first place the patient is directed to wash the whole body with warm water and soap in the morning and at night. This part of the treatment I regard as most essential. It is true that when the furuncles have been confined to the neck it may be sufficient to wash only the upper half of the body, but it is not so thorough a procedure. After this thorough washing of the whole body with soap and water, and the skin has been dried, the whole surface is then bathed with a saturated solution of boracic acid in water. Other antiseptic solutions may be used, as corrosive sublimate, but I prefer the boracic acid solution, and regard it as most effective. The skin is allowed to dry without wiping, and then the individual furuncles are dressed with the following ointment spread on cotton or linen, and bound on if possible.

℞.	gm.	
Boracic acid	4	or āā ʒi
Precipitated sulphur	4	
Carbolized petrolatum	32	℥i

Early opening of the individual lesions is not advised, incision being resorted to only after the lesions have become very painful and mature.

Another important point is to have all the clothing that comes next to the skin changed daily. It is unquestionably true that the germs are often retained in and reinoculated from the collars and underclothing.

It is not to be understood that in applying this treatment, no thought should be given to the improvement of the general condition by internal and hygienic measures. On the contrary, everything should be done on general therapeutic principles to promote the well-being of the patient.

It is not claimed that this method often accomplishes the brilliant results that are attained by the vaccine method. Nevertheless, it has rarely failed when carried out with care and patience, and has, in my experience, frequently succeeded where the vaccine treatment has failed. I am convinced that a careful trial of it will prove that the statement made at the Sixth International Dermatological Congress by a distinguished foreign visitor, that the opsonic treatment is the only form of treatment for general furunculosis which is in the slightest degree reliable, must be modified considerably when the results obtained from this method of sterilization are recognized.

14 Marlborough Street.

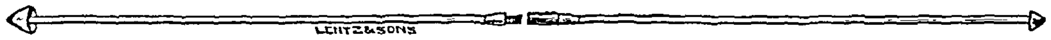
A MODIFIED EXTRACTOR FOR THE REMOVAL OF VARICOSE VEINS OF THE LEG

W. WAYNE BABCOCK, M.D.

PHILADELPHIA

This instrument is a modification of the simple device I described in 1907,[1] for the removal of varicose veins of the leg. The larger acorn tip of the instrument has been increased in size and its surface toward the shaft of the instrument so cupped as to catch the wall of the vein and prevent its inversion and slipping over the end of the instrument. In using the instrument the vein is exposed either at the upper or lower termination of the segment to be removed. With the internal saphenous vein, which is most frequently extirpated, the exposure is made either just below the saphenous opening in the thigh or on the inside of the calf of the leg.

The vein is exposed, grasped with hemostatic forceps, incised and the smaller end of the instrument slipped into the lumen of the vein for the required distance or until some obstruction is encountered. With strong silk the wall of the vein is firmly tied to the shaft of the instrument, the vein ligated, divided between the point of ligature and the instrument, and the hemostatic forceps removed. The smaller bulbous tip of the instrument, which may be seen and felt beneath the skin, is now exposed by incising the overlying skin and wall of the vein, grasped, and by firm traction combined with a series of short jerks the instrument with the affixed segment of vein is extracted. The wall of the vein slips to the other end of the instrument and becomes firmly pleated in a small fusiform mass against the concavity of larger tip of the instrument. The venous branches are torn off from one to several centimeters distant from the main trunk and do not give rise to troublesome hemorrhage. The procedure may be repeated with other varicose veins as desired. Finally the short incisions are closed. The instrument may be introduced into the vein from above downward or from below upward whichever is the more convenient in the particular case. By this instrument one may often remove, through two incisions, one measuring about one inch or less and the other one-half inch in length, twenty or more inches of vein within a very few minutes.



A modified extractor for the removal of varicose veins.

The instrument shown in the illustration is jointed; the joint is, however, not an indispensable feature of the device.

2033 Walnut Street.

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[1] New York Med. Jour., July 27, 1907.

Special Article

TYPHOID FEVER IN MILWAUKEE AND THE WATER SUPPLY

[*By Our Special Commissioner*]

Typhoid fever seems always to have prevailed more or less extensively in Milwaukee. The following table gives the total number of deaths from this disease, and the corresponding typhoid death rates for the years 1869 to 1909 inclusive.

TABLE 1.—TYPHOID DEATH-RATES, MILWAUKEE, 1869-1910

Year.	Population.*	No. Deaths.†	Deaths Per 100,000 Population.‡
1869	68,820	44	61.0
1870	71,440	58	81.2
1871	75,854	35	46.2
1872	80,269	70	87.2
1873	84,684	49	57.9
1874	89,098	69	77.4
1875	95,513	25	26.2
1876	97,927	36	36.7
1877	102,341	36	35.2
1878	106,755	25	23.4
1879	111,169	32	28.8
1880	115,587	43	37.2
1881	124,475	59	47.4
1882	133,363	42	31.5
1883	142,251	35	24.6
1884	151,139	47	31.1
1885	160,027	44	27.5
1886	168,915	51	30.2
1887	177,803	55	30.9
1888	186,691	78	41.8
1889	195,579	55	28.1
1890	204,468	83	40.6
1891	212,553	71	33.4
1892	220,638	66	29.9
1893	228,720	80	34.9
1894	236,808	60	25.3
1895	244,893	63	25.7
1896	252,978	46	18.2
1897	261,063	31	11.8
1898	269,148	46	17.1
1899	277,233	47	17.1
1900	285,315	59	16.9
1901	290,494	63	21.7
1902	295,673	48	15.1
1903	300,852	54	16.8
1904	306,031	43	13.6
1905	311,210	68	22.9
1906	316,989	98	30.5
1907	322,168	89	25.7
1908	327,347	55	16.8
1909	332,526	78	23.4
1910	337,117	..	....

* Population of 1870, 1880, 1890, 1900, U. S. Census; 1910, U. S. Census Bureau estimate. Intervening years calculated by "arithmetical" method (Twelfth Census Bull. No. 135).

† Number of typhoid deaths recorded in Reports of Health Department.

‡ Rates computed directly from populations and typhoid deaths given in this paper.

By five-year periods the rates are as follows:

TABLE 2.—AVERAGE TYPHOID DEATH-RATES BY 5-YEAR PERIODS

1870-4	70.0	1890-4	32.8
1875-9	30.1	1895-9	17.4
1880-4	34.4	1900-4	17.3
1885-9	31.7	1905-9	24.0

COMPARISON WITH OTHER CITIES

From these data it appears that, in comparison with other American cities of similar rank, the average typhoid death rate in Milwaukee in recent years has not been remarkably high. During 1898-1908, it averaged 19.7. This figure would cause it to be placed eleventh in point of typhoid fatality among American cities of over 100,000 population (census of 1900). Ten cities had a lower average typhoid death rate than Milwaukee during this period and 27 a higher.[1] At the same time a death rate of 19.7 cannot be regarded as remarkably low. The typhoid rate of German cities with a population of over 15,000 (a total population of 19,127,096) averaged in 1902-4 only 6.7. The city of Madison, situated less than 100 miles from Milwaukee, reported an average typhoid rate of 5.8 for the years 1900-8. The average typhoid rate in Chicago for six years, 1904-9, was 16.7; in Milwaukee for the same period, 22. Milwaukee itself is in a region of the country having comparatively little typhoid fever. The typhoid rate for the whole state of Wisconsin—a registration state—for 1908 was 13.9, only Rhode Island among the registration states having a lower rate (12.9).[2]

WATER SUPPLY

The water supply[3] of Milwaukee was first obtained from springs and wells, and from the three streams—now open sewers—passing through the town. A town pump was in existence in City Hall Square as late as 1875. In 1870-71 authority was given the city by the state legislature to issue water works bonds; in 1871 a board of water commissioners was created. The supply was at first taken from Lake Michigan through a 36-inch cast iron pipe laid in the bottom of the lake, extending 2,100 feet from the shore to a crib. The pumps on the lake shore were started Sept. 14, 1874, but for about a year before this date (Nov. 3, 1873—Sept. 14, 1874) water from the Milwaukee River was pumped into the reservoir as a temporary supply for the fire department.

The depth of water at the original intake was eighteen feet, the inflow being eight feet below the surface. This served as the source of water supply up to 1895, when a new intake was completed. The old intake is still connected with the works as a reserve in case of emergency, but is said not to have been used since the above date.

The present intake consists of a brick tunnel, seven and one-half feet inside diameter, extending 3,200 feet to a crib, from which point two lines of cast iron pipe, five feet in diameter, extend 5,000 feet to submerged cribs in sixty feet of water. The inflow is situated about fifteen feet above the lake bottom. The total length of the intake is about 8,200 feet.

From the pumping station on the lake shore which has a daily pumping capacity of 86,000,000 gallons, the water is pumped to a distributing reservoir, with a capacity of 21,000,000 gallons, and to two high service stations.

The sewage of Milwaukee passes for the most part into the three rivers which intersect the city, the Milwaukee river, the Menomonee river, and the Kinnickinnic river. (See diagram.) A slow current sets toward the harbor mouth. The stench arising from these open sewers has caused flushing of the streams to be undertaken as a remedial measure. Two flushing tunnels have been constructed; one in connection with the Milwaukee river; the other, completed in 1907, in connection with the Kinnickinnic river. In 1909 the Milwaukee River Flushing Works displaced over *fifteen* billion cubic feet, the *Kinnickinnic river* works over twelve billion. The effect is of course to hasten the flow toward the lake. In addition to the sewage entering the lake from this source, an intercepting sewer runs to the north end of Jones Island, just south of the harbor, and at this point fresh, crude sewage is pumped into the lake at a rate of over 55,000,000 gallons daily. (See diagram). The point where the sewage-laden river together with the pumped sewage, enters the lake is about three and one-half miles southwest of the water intake. *No city sewers* empty into the lake north of the harbor mouth. Some drainage from summer resorts and isolated houses enters the lake at various points north of the water intake, but the volume of such drainage appears to be very small.

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[1] For data see Taylor: Engineering News, April 21, 1910.

[2] Bureau of Census Mortality Statistics, 1908.

[3] The data here set forth are chiefly taken from a historical description by Mr. Thomas McMillan, chief engineer of the pumping station, kindly furnished by Dr. W. C. Rucker.

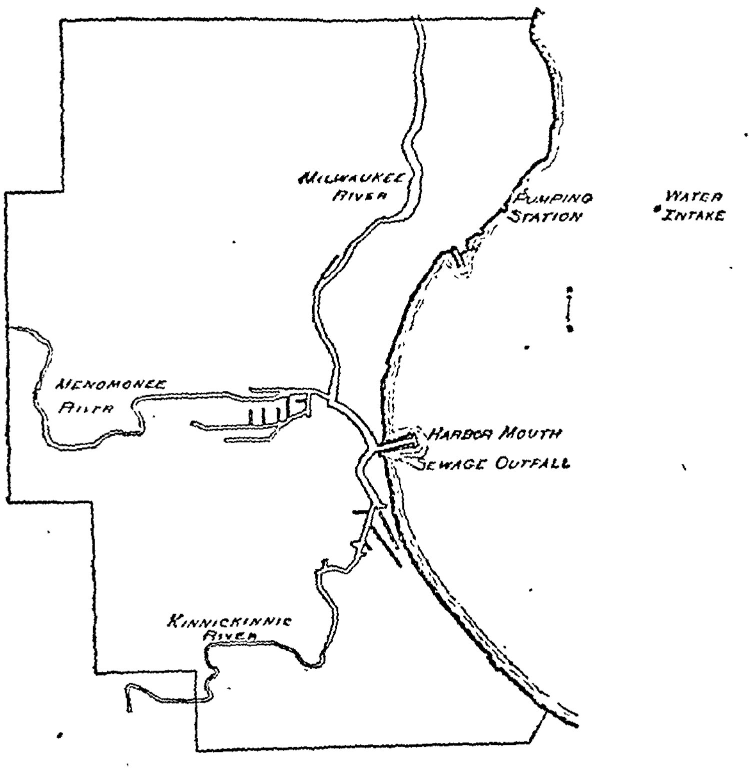

Diagram showing sewage outfalls and water intake, Milwaukee, Wis.

The possibility that some of the Milwaukee sewage may drift north and mingle with the water drawn at the intake is one that must be ever reckoned with. It has been sometimes held that on this—the west—side of Lake Michigan, the general direction of the lake currents is from north to south, but it is plain that there can be no absolute constancy in this respect. The direction and force of the wind, the fluctuation in lake levels and temperature, and other factors must to a greater or less extent affect both the surface drift and the deeper lake currents. Major W. V. Judson, of the United States Corps of Engineers, in a recent paper[4] on "Currents in Lake Michigan," expresses very forcibly this view of the irregularity of Lake Michigan currents.

> We do *know*, and perhaps it is enough for the purposes of this *commission*, that occasionally currents of considerable velocity, say several miles per hour, may be expected to arrive from almost any direction at any point reasonably near either shore of the lake. It is therefore apparent that in the general case if the waters of the lake are polluted by the discharge into it of large quantities of sewage, then practicable localities in the lake, even twenty to thirty miles distant from the point of entrance of the sewage, are not safe places from which to derive water for domestic use.

A similar view has been well expressed by Amyot.[5]

> In the neighborhood of our cities it has frequently been observed that with favoring winds streams of unchanged sewage, like the Gulf Stream, wend their way out from shore as much as three or four miles. The winds are very inconstant in direction in these lakes, so that these streams may be easily blown up or down shore. Winds up or down the lake, *lasting any length of time, cause piling up of the water.* When this finds its *level, currents of inconstant direction* start up or down the lake.

Even a rather deep intake under these conditions is exposed to pollution, since a wind blowing in-shore may cause a heaping up of contaminated surface water, which then flows outward in a deep countercurrent. Several physical agents may be concerned in bringing about a pollution of the water supply, and it is hardly to be anticipated *that as a rule meteorologic* conditions will *show* an *unmistakable* relation with *typhoid fever outbreaks.*

Apart from the probability, on these grounds, that at times Milwaukee sewage must to a greater or less extent enter the water supply, there is direct analytical evidence that such pollution actually occurs. Dr. G. A. Bading, *former* commissioner of health, in a communication to the city council in August, 1908, wrote: ". . . . analysis, both chemical and bacteriologic, made at regular intervals, unquestionably demonstrates the presence of contamination." The report of Dr. G. C. Ruhland,[6] city bacteriologist, included in Dr. *Bading's* paper, states that "I have repeatedly found undoubted colon contamination."

REASONS FOR BELIEVING TYPHOID FEVER IN MILWAUKEE IN PART WATER BORNE

As already pointed out, *the typhoid rate in* Milwaukee ranges in general somewhat higher than that of neighboring cities (Madison, Chicago) possessing a pure or slightly polluted water supply. Although the state of Wisconsin contains some cities with a very high typhoid rate (1908: Eau Claire, 51.4; Kenosha, 58.2; Sheboygan, 97.3), the typhoid rate *for the state* as a whole was in 1908 considerably below the Milwaukee average. In a word, the general conditions of the region, wherever special water pollution does not exist, are accompanied by a lower typhoid rate than that occurring in Milwaukee.

At first the use of the lake water was followed by a sharp reduction in the amount of typhoid fever. The first year of use of the public supply (1875) was marked by a typhoid rate less than one-half the preceding five-year average. The lake water itself, however, was not guiltless as shown by further developments. Examination of the annual typhoid rate (Table 1) shows a period of irregular and rather high mortality up to 1895. In the next five-year period, a much lower mortality is observed. It must be noted that in 1895 the new water tunnel was completed, thus shifting the intake about

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[4] First Report of the Lake Michigan Water Commission, 1909, p. 63.

[5] Am. Jour. Pub. Hyg., 1909, 19, p. 43.

[6] Bading, G. A.: Water Conditions of Milwaukee, First Report of the Lake Michigan Water Commission, 1909, p. 36.

6,000 feet farther out into the lake. It is a justifiable conclusion that the purer water thus obtained was responsible for the lowering of the typhoid death rate. The influence of the water supply in producing typhoid fever is here shown in a striking way.

For a list of typhoid deaths 1890 to 1910, tabulated by months (Table 3), we are indebted to Dr. W. C. Rucker, Health Commissioner of Milwaukee. This table shows, in addition to the regular autumnal incidence, several periods of unusually high mortality. These may be noted especially in December, 1904 and January, 1905; in May, 1905; in March-April, 1906; in December, 1906, and January-February, 1907; and in March-April, 1909. Now this tendency toward excessive prevalence in winter and spring is precisely similar to what was observed in Chicago[7] prior to the opening of the Chicago Drainage Canal. Attention may especially be directed to the spring and winter epidemics of 1890, 1891, 1892, and 1896 in Chicago. At the time these occurred the situation in that city as regards water supply was substantially identical with that now existing in Milwaukee, namely a supply derived from Lake Michigan without purification and exposed to pollution with considerable amounts of raw sewage at irregular and varying intervals. There is also the same general history of typhoid fever in the two cities. Extension of the water intake in Chicago was as a rule followed by a period of relative freedom, and then with the continued growth of the city the disease again became prevalent.

There is evidence that the real nature of the situation has for some time been recognized by the health authorities of Milwaukee. The commissioner of health in 1899 (Dr. F. M. Schulz) wrote in the twenty-third annual report:

> Although the city at present possesses a good water supply, notwithstanding the fact that we are discharging about 60,000,000 gallons of sewage into the lake daily, it is only a question of time when, through the natural increase and growth of the city, the amount of sewage swept out into the lake will assume such proportions as to affect seriously the potability of our water.

And again in 1904 (28th Annual Report):

> While the supply of our city is under ordinary circumstances very satisfactory, every southerly and southeasterly wind would seem to carry a certain amount of contamination from the harbor dangerously near the intake, and this may sometime easily threaten the purity of the water supply.

In 1905 a definite outbreak of the disease was attributed to water pollution:

> A large number of cases of intestinal infection and a considerable number of cases of typhoid fever occurring during the month of May [Table 3] led to exhaustive chemical and bacteriologic examination of the water. . . . It is supposed that the heavy rains which occurred during April carried a large quantity of sewage into the lake. . . . In conjunction with this . . . we had for some weeks almost constantly southwest winds which facilitated the transfer of this sewage to the intake.

The bacterial examination of the water has shown unmistakable, although not as a rule extreme pollution, as stated by Dr. Ruhland, city bacteriologist, in the reports just cited.

From all these converging lines of evidence, environmental, epidemiologic, and analytical, there can be little doubt that at least a considerable proportion of the typhoid fever occurring in Milwaukee during a long series of years must be attributed to a polluted public water supply.

TABLE 3.—DEATHS BY MONTHS FROM TYPHOID, 1890-1910.

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
1890	8	6	4	3	8	6	4	8	20	3	8	5	83
1891	7	4	6	6	4	3	5	7	3	11	4	11	71
1892	17	6	4	4	..	8	5	3	10	6	6	3	66
1893	7	2	1	5	6	6	5	7	10	13	11	7	80
1894	7	7	4	6	..	4	3	3	5	9	5	7	60
1895	9	2	5	6	3	4	2	4	7	7	7	7	63
1896	6	7	3	5	1	2	3	4	2	5	4	4	46
1897	6	1	3	6	2	..	3	2	2	2	2	2	31
1898	6	1	1	2	6	3	7	2	7	4	4	3	46
1899	2	2	2	1	4	6	3	4	5	10	4	4	47
1900	5	..	2	2	3	6	3	6	11	11	7	3	59
1901	3	3	4	5	8	5	10	6	5	6	5	3	63
1902	3	3	4	1	..	1	3	8	5	8	7	5	48
1903	7	6	3	7	4	2	2	4	6	6	4	4	54
1904	5	1	5	1	6	4	1	3	..	3	3	11	43
1905	10	6	5	8	15	3	..	3	8	7	4	6	68
1906	10	5	14	12	4	6	4	8	7	8	8	12	98
1907	16	13	7	6	4	3	5	7	8	8	5	2	84
1908	4	6	2	3	4	7	3	4	2	9	2	9	55
1909	8	6	10	11	4	4	3	7	7	4	9	5	78
1910	22	14	18	12	19	27	..	..	..	..	..	..	..

OTHER POSSIBLE SOURCES OF INFECTION

No one can suppose that in a city the size of Milwaukee water is the only medium of infection. In Washington, D. C., the typhoid rate averaged about 40 in the years 1906-8, and there is no reason to suppose that the public water supply played a large part, if any, in the spread of the infection. It is possible that some at present unknown mode of spread in both Washington and Milwaukee is responsible for the greater part of the typhoid fever cases, but until other possibilities are exhausted we are not justified in resorting to this assumption. Well-known possible sources of infection are milk-supply, contact with typhoid cases and with typhoid bacillus carriers, raw fruit and vegetables, and fly contamination.

These possibilities may be briefly considered, although it is plain that prolonged and intensive investigation of the local conditions would be necessary before a decided opinion could be expressed as to the weight to be given the several factors. Inspection of Table 3 shows that during the last twenty years typhoid fever has occurred frequently at times of year when the agency of the house fly could be excluded. The present outbreak furnishes a case in point. The large amount of typhoid

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[7] Jordan, E. O.: Typhoid Fever and Water Supply in Chicago, THE JOURNAL A. M. A., Dec. 20, 1902.

TABLE 4.—CASES AND DEATHS FROM TYPHOID IN MILWAUKEE, BY WEEKS—JAN. 1 TO JULY 1, 1910, INC.[†]

Week Ending.	Cases.	Deaths.	Week Ending.	Cases.	Deaths.
Jan. 1[*]	29	3	April 9	48	2
Jan. 8	67	3	April 16	29	4
Jan. 15	43	3	April 23	30	4
Jan. 22	45	8	April 30	38	3
Jan. 29	27	4	May 7	33	..
Feb. 6	28	1	May 14	22	3
Feb. 12	31	4	May 21	23	11
Feb. 19	27	1	May 28	86	1
Feb. 26	55	5	June 4[‡]	112	9
March 5	49	9	June 11	91	7
March 12	72	3	June 18	61	2
March 26	23	2	June 25	47	9
April 2	45	6	July 1 (6 days)	29	4

Total number of cases to date, 1,063.
Total number of deaths to date, 114. Out of city, 2.

[*] The week ending January 1st includes six days of 1909.

[†] Dr. G. C. Ruding was health commissioner up to May 23, at which date he was succeeded by Dr. W. C. Rucker.

[‡] Whipple states that "when an epidemic occurs physicians are more likely to report cases of typhoid fever than at other times when there is no excitement." (*Whipple: Typhoid Fever*, New York, 1908, p. 99.) "We are inclined to believe, from our observation of the situation [in Washington] and from experimental data, that perhaps from 10 to 20 per cent. of the cases reported as typhoid fever are really some other disease," Rosenau, Lumsden and Kastle; Bull. No. 52, U. S. P. H. and M.-H. Service, 1909.

TABLE 5.—MONTHLY PRECIPITATION BY INCHES, MILWAUKEE[*]

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1871	3.55	1.38	3.16	3.27	3.24	3.17	1.67	3.70	0.57	3.37	2.54	1.93
1872	0.90	0.34	0.53	1.84	3.11	3.67	2.05	1.89	8.72	0.73	1.99	0.49
1873	2.81	0.17	1.22	2.28	5.17	2.88	2.69	4.03	2.89	1.96	1.72	2.81
1874	3.46	0.66	2.54	2.02	3.00	3.40	3.86	1.79	4.51	1.90	2.69	1.00
1875	1.24	1.82	2.93	3.13	5.06	4.23	3.18	2.52	4.31	2.87	1.16	3.11
1876	4.39	3.63	5.29	2.83	8.54	4.76	4.39	5.52	3.66	1.62	3.57	2.16
1877	2.83	0.10	5.53	6.99	0.74	5.76	2.06	6.31	0.48	7.15	4.95	3.25
1878	1.80	3.10	3.89	5.83	4.96	4.88	2.94	0.64	4.03	4.13	1.01	1.08
1879	0.51	1.62	0.92	2.04	2.29	2.66	3.39	1.87	2.00	2.01	3.66	1.76
1880	2.17	1.69	1.16	4.22	3.13	6.93	3.20	3.54	1.85	0.51	0.82	0.74
1881	1.86	5.39	5.30	0.78	2.55	3.77	5.34	0.80	4.28	6.04	1.69	1.27
1882	1.05	2.11	3.90	1.92	2.03	3.77	1.58	4.21	1.31	2.83	2.05	1.67
1883	1.66	2.64	0.28	0.86	5.67	2.84	7.13	0.38	2.32	1.92	1.81	1.96
1884	1.69	2.61	2.77	3.15	1.67	4.22	3.80	1.84	2.82	2.18	1.45	2.37
1885	1.10	0.49	0.21	2.32	0.41	6.49	4.23	7.39	3.30	2.40	1.53	2.71
1886	5.02	2.36	3.42	2.77	2.67	2.54	0.94	3.40	2.38	2.31	1.62	2.03
1887	2.66	3.22	1.25	1.05	1.80	0.81	5.21	2.25	4.36	2.43	0.85	4.57
1888	1.41	1.08	2.25	2.34	2.21	2.90	3.48	2.21	0.99	1.18	1.46	1.97
1889	1.95	2.00	1.07	2.40	5.64	5.21	3.08	0.76	3.45	0.56	2.71	2.87
1890	2.51	1.94	2.68	2.84	4.95	4.09	1.77	3.18	0.65	2.96	2.02	0.50
1891	2.10	1.67	3.17	3.27	1.47	4.98	3.57	2.83	0.18	1.66	3.40	1.46
1892	2.29	1.76	1.76	2.78	8.12	6.33	1.20	3.47	2.21	1.66	1.84	1.61
1893	1.80	1.51	3.29	5.69	1.79	5.46	3.67	1.01	3.24	1.62	1.20	2.59
1894	1.64	1.63	2.53	2.89	4.66	3.44	1.08	0.29	5.06	2.05	1.68	0.84
1895	1.78	1.26	0.74	1.48	4.24	3.04	1.58	2.83	1.82	0.52	2.99	2.60
1896	1.22	1.36	2.82	3.85	3.31	2.03	2.64	1.77	5.72	1.02	2.48	0.76
1897	3.86	1.78	4.83	4.21	1.01	3.21	2.33	3.00	1.48	1.05	1.87	2.42
1898	3.52	3.36	3.45	1.77	1.65	2.44	3.28	4.86	1.98	4.38	1.16	0.58
1899	0.45	0.75	1.99	0.68	3.42	2.29	2.56	2.54	3.04	1.21	1.64	2.25
1900	1.63	3.05	1.72	1.74	2.57	1.88	4.93	3.76	3.51	2.22	2.25	0.84
1901	1.33	1.92	3.62	0.47	1.75	1.12	1.45	1.50	1.86	0.65	0.75	1.69
1902	0.51	1.13	1.91	0.67	4.60	4.71	4.82	0.53	4.27	1.81	1.85	1.82
1903	0.60	2.01	3.20	2.68	3.03	1.51	4.53	5.56	5.02	2.13	1.40	1.65
1904	1.36	1.39	5.46	1.79	2.38	3.65	1.89	3.96	2.64	2.56	0.11	2.67
1905	1.62	2.33	3.00	2.00	6.50	3.89	2.52	3.18	0.76	3.59	1.34	1.46
1906	2.76	1.92	1.62	2.04	2.95	2.57	2.14	3.87	4.08	2.05	2.79	1.39
1907	2.54	0.39	2.92	3.41	3.14	4.48	5.89	2.88	5.39	0.78	0.85	2.23
1908	3.24	2.87	2.25	3.61	4.55	2.44	2.56	1.63	0.72	1.08	1.87	1.50
1909	2.29	1.99	0.86	7.09	2.27	2.58	1.62	3.18	3.39	0.61	2.29	3.34
1910	2.71	0.58	0.05	3.48	2.64	1.01	....	....	....	....	....	....

[*] By kindness of the Weather Bureau.

fever in the winter and spring of 1910 could not have been due to fly infection.

We are, however, told by officials of the health department that there are several hundred open privies still in use in the more thinly settled parts of the city and that many hundreds have been abolished during the last three years. The present extensive distribution of cases will render the privies in the coming summer more than ever a source of danger from fly contamination. In the past fly contamination has doubtless played a part in Milwaukee as elsewhere, but to just what extent cannot be determined by any available data. The seasonal and geographic distribution of cases would not seem to justify assigning it a prominent position.

Contact infection in like manner has doubtless occurred and is now occurring in Milwaukee but there seems no reason for attributing to it a larger share in causation than should be assigned to it in the neighboring city of Chicago where, during the past six years, the typhoid fever rate has been considerably lower than in Milwaukee (Chicago, 16.7, Milwaukee 22).

In regard to possible contamination of fruits and vegetables, it may be remembered that this is especially liable to occur when the contents of privy vaults are used by market gardeners. We have no means of knowing the extent to which such a practice prevails on the truck farms in the neighborhood of Milwaukee, but the distribution of cases in time and space does not suggest that this can be one of the main factors.

The milk supply of Milwaukee, as already indicated, does not come from a region where there is a particularly high typhoid mortality. In the present outbreak there is not the disproportionate mortality among children that usually accompanies milk-borne epidemics. The records of the health department show that in the present outbreak there is no special incidence of the disease among particular milk-routes. There are no data available for determining the relative amount of milk-borne infection in Milwaukee at an earlier period.

THE PRESENT SITUATION

In the current year, 1910, there has been an unusual amount of typhoid fever in Milwaukee. This is shown by the unanimous testimony of physicians, by the fact that there are many more typhoid cases than usual in the hospitals, and by the necessity that has arisen for bringing in additional trained nurses from neighboring cities. On July 1 an appeal was issued by the Associate Charities of Milwaukee for funds to continue the work of the organization. In this appeal it is stated that "The Associated Charities are at this time almost entirely without working funds. The typhoid fever epidemic is mainly responsible for this unusual state of affairs. In the month of June just past the Associated Charities cared for 350 cases more than ever before in the history of the organization, more than in the panic years, and three times more than last year. Of these, 90 cases were illness, mostly typhoid fever."

The records of the health department show the extent to which the disease has prevailed (Table 4)).

A map has been prepared by the health department, showing the distribution of cases throughout the city. The poorer sections do not seem to have suffered disproportionately. The "spot map" furthermore does not reveal the existence of a number of scattered centers, but rather a uniform distribution, such as would be expected if a common factor such as a public water supply were concerned in the causation. There is nothing in the distribution of cases, so far as has been disclosed, to conflict with the hypothesis that the present rather extensive outbreak owes its origin to the lake water. On the other hand, no explanation for the particularly severe incidence of the disease at the present time has been advanced. The amount of sewage discharged into the lake has not materially increased during the last three years. Comparison of the figures of the monthly rainfall recorded by the weather bureau (Table 5) does not throw much light on the problem. It is tempting to suppose that an unusually heavy rainfall such as occurred in December, 1909 (1.44 in. above average) and April, 1910 (0.78 in. above average) may have produced a particularly extreme water pollution, but on the other hand the much more excessive April rainfall of 1909 (4.39 in. above average) was not followed by unusual typhoid prevalence. From data already given it is plain that not only rainfall but wind direction must influence profoundly the extent of contamination. It is, therefore, perhaps useless to attempt to trace any connection with meteorologic conditions where a concurrence of several factors is necessary to bring about the result and when, given exactly the right conditions, a few hours may be sufficient to produce a serious infection of the water supply. At the same time it is difficult to avoid the suspicion that a heavy rainfall such as occurred in November, 1891, was one of the factors in producing the outbreak of typhoid in the following December and January.

REMEDIAL MEASURES

When the gravity of the existing situation became manifest, warnings to boil the drinking water were issued by the health department and leaflets of instruction were printed in several languages and distributed broadcast. On June 20 a temporary plant for chlorination of the water was put in operation near the pumping station. This was being operated sixteen hours a day on July 1. The analytical results of this procedure are said to be excellent, the tap-water showing marked bacterial improvement.

It is significant that the whole problem of sewage disposal is now and for some time has been under advisement. As the result of a communication to the Common Council by Dr. Bading in 1908 an expert sewage commission, consisting of the well-known sanitary engineers, Messrs. J. W. Alvord, G. C. Whipple, and H P. Eddy, was appointed to devise plans for a system of sewage disposal. This commission has not yet completed its investigation, but a report is expected in the near future. It is thus evident that the whole situation in Milwaukee is on the way to speedy betterment.

SUMMARY AND CONCLUSIONS

The history of typhoid fever in Milwaukee shows first a period of very excessive prevalence, (1869-1874). The introduction of a public water supply improved conditions greatly. This usually happens when shallow wells are abandoned for a large body of water. In spite of the improvement, however, the typhoid rate remained excessively high (over 30) for a period of 20 years. Then in 1895 the water intake was extended 6,000 feet further out into the lake. The result was an immediate drop in the typhoid rate to about one-half. Slowly, however, the growth of the city asserted itself by an increasing volume of sewage poured into the lake and a consequent increased contamination of the water supply. In the present year (1910) the typhoid rate promises to be as high as before the extension of the water intake. No other probable source of a large amount of typhoid fever has been discovered and there can be little if any doubt that the public water supply is responsible for the present outbreak. When millions of gallons of sewage are discharged into a lake a few miles from a water intake it needs no divining rod to detect the possibilities of danger. No fact in epidemiology is more clearly established than that sewage-contaminated drinking-water is a cause of typhoid.

A CASE OF RETROGRADE PUBERTY, IMPOTENCE AND DIABETES INSIPIDUS, RELIEVED BY SUPRARENAL CORTEX

WILLIAM T. BELFIELD, M.D.
CHICAGO

History.—In 1897, H., aged 27, married, developed (1) polyuria without sugar, 120 to 150 ounces daily; (2) retrograde puberty; i. e., atrophy of testes, disappearance of beard, pubic and axillary hair, the scalp hair remaining luxuriant. The condition, called diabetes insipidus by the physicians consulted, had existed for twelve years, when, in 1909, the patient was referred to me.

Diagnosis.—The polyuria and retrograde puberty suggested an excess of pituitary secretion. As an *x*-ray picture of the pituitary region by Dr. Reichmann revealed nothing abnormal, the pituitary excess was assumed to be not absolute, but relative, possibly from deficient secretion by the adrenal cortex.

Treatment.—After thyroid substance, and later adrenalin (which is derived from the adrenal medulla only), had proved futile, he was given daily four grains of suprarenal substance, containing cortex as well as medulla.

Result.—Improvement was prompt and distinct; after four months of this medication his daily urine is only one-half the average during twelve years; beard and body hair have grown markedly; the testes have doubled in size, and coitus has been practiced several times, after twelve years of absolute impotence. In short, he is exhibiting puberty a second time.

As two other cases of retrograde puberty—a type seemingly hitherto unrecognized—have come to my notice, possibly they are not rare.

100 State Street.

SYPHILIS IN INSANITY AS DETERMINED BY THE WASSERMANN REACTION*

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BALTIMORE

Of 262 male patients from Mt. Hope Retreat, tested by the Wassermann method, a positive reaction was obtained in 58, or in 22 per cent. of the total male population. Of the 262 patients, a history of syphilis was given in only 3 per cent. of the total, and only 14 per cent. of the patients showing a positive reaction admitted having syphilis, though most of them acknowledged exposure, and having had gonorrhea; 86 per cent. of the patients with positive reactions thus denied having had syphilis at any time. On the other hand, a history of syphilis was admitted where the reaction was negative in 2.6 per cent. of the total admissions. Of the 58 positive cases, 69 per cent. of the patients have been in the institution one year and under, 12 per cent. have been there two years, and 19 per cent. have been there three years and over.

We classify the positive cases as follows:

	PER CENT.
Chronic alcoholic insanity	15.5
Dementia præcox	18.9
Dementia paralytica	17.2
Maniac depressive insanity	15.5
Organic dementia	20.4
Paranoia	3.4
Involutional insanity	6.8
Constitutional insanity	1.7

Of 21 patients from other sources 16 were paretics with a positive reaction in all, and of 27 cases of paresis collected from all sources, 96 per cent. of patients gave a positive reaction. Of 7 cases of tabes 83 per cent. of reactions were positive, and of 5 cases of cerebral syphilis 4 were positive, while in the only negative case the patient had been receiving mercurial injections for the previous six months.

PRELIMINARY NOTE ON THE ACTION OF EHRLICH'S SUBSTANCE 606 ON SPIROCHÆTA PERTENUIS IN ANIMALS†

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NEW YORK

The usual treatment of yaws with potassium iodid or mercury is very tedious, but the encouraging results already obtained in the treatment of other diseases due to spirochetes, namely, syphilis, relapsing fever and fowl spirillosis, by a single injection of Ehrlich's substance "606"[1] suggest that his principle of "therapia magna sterilisans" may be applied also to yaws.

As a preliminary to the use of any new drug on man, its trial on animals is, if possible, of course, strongly indicated on many grounds. Up to the present, the only animal experimentally infected with yaws has been the monkey, various species of which have been infected by Castellani in Ceylon, Ashburn and Craig in the Philippines and Neisser, Halberstadter and Bauerman in Java. A definite lesion results from inoculation, but apparently the reaction is rather superficial, as is indicated by a late weak complement fixation reaction and a relative scarcity of spirochetes.

Recently, I have succeeded in infecting rabbits in the testicle with the spirochetes of yaws and this lesion is an excellent guide to treatment, as the spirochetes are present in myriads in pure culture, the serum reaction is prompt and strong and the organ can easily be removed and examined. Rabbits, also, are, of course, easier to obtain and to handle than monkeys.

The spirochetes came from a colored soldier returning from the Philippines who had a well-marked case of yaws with three separate general eruptions.[2]

A monkey was first infected on the eyebrow and transfers were then made of the serum of the monkey's yaw to rabbits' testicles. Three rabbits of the first generation became infected in an average of forty-one days and the infection was then carried on from rabbit to rabbit. The spirochetes are now in the seventh generation in the rabbit and the incubation period has fallen to about twelve days. A detailed account of this work will appear in the *Journal of Experimental Medicine* in a short time.

The lesion seems to differ only in degree from a syphiloma of the rabbit's testicle and consists of an edematous tumor in the testicle or epididymis, varying in size from that of a pea to that of an olive. On puncture with a capillary pipette and examination of a drop of the serum with the dark-field microscope a brilliant picture is obtained. Levaditi stained sections are equally striking. The lesion persists four to six weeks and the Wassermann reaction occurs in the first or second week. The general health of the animals is not noticeably affected.

Ehrlich's "606" is dichlor-dioxy-diamido-arseno-phenol; it is a golden yellow powder put up in vacuum tubes, and is given in the form of a disodium salt freshly prepared before each injection. This substance has been built up with the idea that it shall have a selective action for spirochetes and thus open the way to sterilize the tissues by a single adequate dose. Up to the present, no toxic effects of the drug itself have been observed[3]. A quantity of the material has been recently sent to the Rockefeller Institute by Professor Ehrlich for trial in syphilis.

The following experiments have been made to determine the action of this substance on animals infected with the spirochetes of yaws.

Rabbit 1.—April 1, inoculated in left testicle with material from Rabbit C (first generation from human case). May 6, nodule palpable, spirochetes present; thirty-six days. May 7, spirochetes present. May 9, nodule size of olive; serum negative; 0.1 c.c. injected intravenously with 0.0045 gm. 606 per kilo. May 10, spirochetes not found. May 12, nodule not palpable. May 21, nodule not palpable. June 3, nodule not palpable. June 16, under ether anesthesia, testicle removed; no lesion; spirochetes not found; serum negative.

Rabbit 15.—March 31, right testicle inoculated from Rabbit 7 (second generation). May 7, nodule palpable, spirochetes present; thirty-seven days. May 9, treated as above, intravenously; serum negative; nodule size of olive. May 10, spirochetes not found. May 12, lesion size of pea. May 18, lesion not palpable. May 28, rabbit dead; testicle shows no lesion.

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* From the Laboratories of Dr. C. E. Simon and the Mount Hope Retreat.

† From the Laboratories of the Rockefeller Institute for Medical Research, New York.

[1] Ehrlich: Ztschr. f. ärztl. Fortbild., 1909, vi, 721.

[2] Nichols: Proc. New York Path. Soc., 1910, x, 1.

[3] Alt: München. med. Wchnschr., 1910, lvii, 561; Iversen: München. med. Wchnschr., 1910, lvii, 777.

Rabbit 17.—April 14, left testicle inoculated from Rabbit 6 (second generation). May 7, nodule palpable, spirochetes present; twenty-three days. May 9, treated as above, subcutaneously; serum negative: nodule size of pea. May 10, spirochetes not present. May 12, spirochetes not found. May 18, lesion not palpable. June 16, under ether anesthesia, rabbit castrated; no lesion; serum negative.

Rabbit 21.—April 22, right testicle inoculated from Rabbit 9 (third generation). May 14, nodule palpable, spirochetes present; twenty-two days. May 23, serum positive. May 24, spirochetes present; treated as above, intravenously. May 25, spirochetes not found. May 27, serum positive; lesion not palpable. May 31, serum positive. June 14, lesion not palpable; serum positive. June 17, under ether anesthesia, rabbit castrated; no lesion. June 23, serum negative.

In several animals, the serum reaction has persisted a number of days after the removal of the focus of infection.

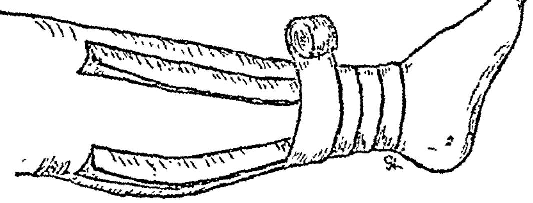
In all these animals no spirochetes could be found twenty-four hours after the treatment; the lesion disappeared after two or three days and, except in the last case, no complement fixation reaction occurred.

In animals not treated, the lesion, as noted above, persists several weeks at least and the serum reaction occurs in one or two weeks. These animals were, therefore, permanently cured by a single small dose. Rabbits tolerate a dose thirty times as great as the one given.

Three monkeys infected on the eyebrow have also been treated in a similar way and the lesions have disappeared after twenty-one days.

It would seem worth while to try this remedy in our tropical possessions where the natives are frequently, and white men are occasionally, infected.

Bandage for Cone-Shaped Surface.—Dr. Maynard C. Harding, Ault, Colo., says: The excellent bandage described by Dr. G. W. Putnam (The Journal A. M. A., April 30, 1910, p. 1441) prompts me to report a similar method of applying a bandage to any cone-shaped surface. Cut three strips of 2-inch adhesive plaster the length of the completed bandage—two will do for an arm-dressing. Fold them lengthwise with the sticky side out, and apply to the limb at equal intervals. Put on the first layer of roller as usual; then one strip of adhesive plaster applied in the same manner will suffice for each successive layer, making a bandage of exceptional strength and durability. It can be especially recommended for a knee-dressing where it is desired to limit the motion.



A firm bandage for any cone-shaped surface.

One reads much of starch bandages in works on surgery, but they are seldom found in the average office. A very satisfactory substitute can be made with the help of a bottle of thin glue or quickly drying cement. A few dabs of glue on every other layer of bandage as it is applied will convert it into a solid mass. This method can be used to apply further layers to the adhesive bandage described above, or with Dr. Putnam's bandage.

THE RELATION OF MOSQUITOES TO FILARIASIS IN THE REGION OF SAN FRANCISCO BAY*

CREIGHTON WELLMAN, M.D.
EDWARD VON ADELUNG, M.D.
AND
FINLEY M. EASTMAN
OAKLAND, CAL.

The constant presence of filariasis in the cities bordering San Francisco Bay has long rendered it desirable to know if the indigenous mosquitoes of this region are efficient hosts for the parasite at the temperature normally found in this part of California. In other words it is a desideratum to learn if an Oriental infected with filariæ residing, for instance, in Oakland might be a *menace* to the community in which he lives. With this object in mind we have undertaken some experiments.

REPORT OF EXPERIMENTS

The Source of the Filariæ.—A Japanese man, aged 29, was found on Dec. 10, 1909, to have sharp-tailed, sheathed filarial embryos in his night blood. This man came to San Francisco six years ago from Japan, stopping at Hawaii three months on the way. He went to Alaska four years ago and since his return to California has resided for three years in Oakland.

The Mosquitoes Used in the Experiments.—These were all bred from larvæ collected in rain-water barrels, etc., which on breeding out proved to be two common species already reported from this part of California, namely, *Culex consobrinus* (Rob.-Desv.) and *C. tarsalis* (Coq.). The males soon died in captivity but the females were easily kept alive in gauze cages, protected from bright light and fed on fresh grapes, which they readily sucked.

Time and Manner of Feeding.—The patient's blood was first examined late at night and proved to contain microfilariæ in plenty, and the mosquitoes were then removed from the cage in glass tubes and wide mouthed bottles, care being taken not to injure the insects. These containers were inverted over the flexor surface of the patient's forearm. It was found that some of the mosquitoes fed very slowly, in several instances an hour elapsing between the time the tube was placed on the arm and the mosquito's beginning to suck blood. When the insects had fed to repletion they were transferred to a cage containing a dish of water and kept at the ordinary temperature of the laboratory with some protection from the light. On the seventh, fourteenth and twenty-first days, after feeding, part of the mosquitoes were dropped alive into 80 per cent. alcohol, an equal number of controls which had fed only on fruit being treated in the same manner each time, and the bottles carefully labeled. To prevent error, two lots of mosquitoes were fed and controlled after this method, the dates of the first feeding of the two lots being December, 1909, and January, 1910, respectively.

Technic Employed in Preparing the Mosquitoes.—This may be described under two heads, namely, (1) fixing and hardening of mosquitoes, and (2) staining and mounting.

Under the first head it will be remembered that the insects had been dropped alive in 80 per cent. alcohol. They were removed from this and the legs and wings cut off. Next they were placed in 95 per cent. ethyl alcohol for twenty-four hours. From this they were transferred to absolute alcohol for twenty-four hours. From absolute alcohol they were put in absolute alcohol and ether (equal parts) for twenty-four hours. From this mixture they were transferred to ether for twelve hours. From the ether they were placed in 3 per cent. celloidin for three days and afterward into 6 per cent. celloidin and placed in 80 per cent. alcohol to harden for twelve hours. The specimens were then sectioned and the sections kept in 80 per cent. alcohol previous to staining.

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* From the Laboratory of Tropical Medicine, Oakland College of Medicine.

* Published under the *imprimatur* of the American Society of Tropical Medicine.

Under the second head we may record the following steps. The sections were taken from the alcohol and placed in tap-water to remove the alcohol. Next they were stained with Delafield's hematoxylin for two minutes and afterwards washed in tap-water to remove surplus of stain. Acid alcohol (95 per cent. ethyl alcohol with 1 per cent. hydrochloric acid) was used to differentiate the sections, the sections being placed for three minutes in this mixture. Next the specimens were placed in 95 per cent. alcohol for three minutes to dehydrate. The sections next were passed through beechwood creosote for five minutes to clear them and finally fixed on slides and mounted in xylol balsam under cover glasses.

Result of Examination.—No developmental forms or other extraneous bodies were seen in the thoracic muscles or any other part of the sectioned mosquitoes. The appearance of the mosquitoes fed on the patient's blood is identical with that of the mosquitoes used for controls. As the sections are thin and the staining good, and as Dr. Wellman is familiar with the appearance of developmental forms of filariæ there seems to be little room for mistake.

Conclusions.—We consider that we have shown by this experiment that the two commonest species of Culex mosquitoes in Oakland are not efficient hosts at room temperature for the nocturnal sheathed microfilariæ occurring in our Japanese patient. It is possibly not too much to say, in view of these findings, that there is probably little danger that Orientals who are infected with filariæ will infect the inhabitants of the San Francisco Bay cities under present conditions.

1068 Broadway.

Therapeutics

ULCER OF THE STOMACH AND DUODENUM

It is the object of this department not only to present sensible treatment for disease and to suggest a method of carrying out that treatment, but also to aid the clinician in making his diagnosis and hence to establish the correct treatment.

Besides gall-bladder disturbances and recurrent appendicitis which all give epigastric symptoms, and other reflexes from abdominal disease or conditions, ulcer of the stomach and duodenum must be diagnosed from the neurosis, gastralgia, and from cancer of the stomach.

ULCER OF THE STOMACH

The principal symptoms are pain and vomiting. The pain is circumscribed and boring in character, sometimes shooting through to the back, intermittent, mostly after eating, rarely on an empty stomach, and is increased by pressure, as by corsets, bands, and belts. The greatest intensity of the pain is located somewhere in the stomach region. The vomiting is likely to occur immediately or soon after eating, and is often projectile in character. The vomiting of blood is, of course, highly distinctive, but does not always occur, and the blood may be fresh and arterial or more or less coagulated and partially digested and rarely of the coffee-ground variety. The appetite is generally good, especially for meat. There is often thirst; pyrosis and flatulence, rarely; there is generally hyperchlorhydria, and meat is thoroughly digested. Attacks of diarrhea are likely to occur, and the stools often contain occult blood. There may develop anemia, more or less severe.

ULCER OF THE DUODENUM

The principal symptom is pain, more or less localized in the region of the pylorus, intermittent, occurring generally about two hours after a meal. In other words, this pain occurs when the stomach is more or less empty. This pain is more frequently relieved by eating some bland food or drinking milk than is the pain of ulcer of the stomach. The appetite is generally good, and vomiting and other symptoms of gastric indigestion are infrequent. Attacks of diarrhea may occur, and occult blood is often present in the stools. There may be a marked hyperchlorhydria.

GASTRALGIA

Gastralgia or stomach cramp may be a neurosis, or may be caused by any irritant in the stomach. While severe gastralgia may cause cardiac depression and simulate angina pectoris, it most frequently allows a prognosis of perfect safety to the patient, and occurs generally in a neurotic patient or hysterical woman. The pain is never so severe as these patients think it is, is often entirely relieved by eating, and is accomplished by enormous amounts of eructated, odorless gas. Burning is often complained of, but pyrosis rarely occurs. Digestion is generally found good when tested. Burning pain and gas eructations are irrespective of the kind of food eaten. The appetite is, of course, capricious and the pain is generally relieved by food and pressure, in fact, pressure is well borne. Nausea and vomiting are rare.

CANCER OF THE STOMACH

The above three conditions may occur at any age, but more generally before 35, while cancer of the stomach occurs more generally from 40 to 60. The principal symptom is pain, generally localized, often in a region that is felt to be a mass or tumor which is exquisitely sensitive to pressure. The pain progressively becomes worse, the mass progressively grows, and emaciation and cachexia progressively increase; hence a patient who has upper abdominal pain of a duration of much more than six months, without presenting any appearance of cachexia and without having lost much weight, can be almost guaranteed not to have cancer. Other symptoms of cancer of the stomach are loss of appetite, eructations of fetid gas, pyrosis, often repeated vomiting, sometimes days at a time and then a period of rest, with frequently, of course, signs of dilatation of the stomach. Rarely is fresh blood vomited; generally extravasations of blood remain long enough in the stomach for decomposition and when vomited give the appearance of coffee grounds. The stomach poorly digests food, often contains no free hydrochloric acid after a test meal, generally lactic acid, and, if the cancer is near the pylorus, the Boas-Oppler bacillus.

A TEST FOR BLOOD IN THE FECES

Many cases of gastric and duodenal ulcer can only be diagnosed by the symptoms of these conditions plus the finding of occult blood in the feces. A small portion of fecal matter about the size of a hazelnut is mixed with water, and to this watery mixture is added a small quantity of glacial acetic acid. This is then placed in a test tube and shaken with ether. Any hemoglobin which may be present is changed to hematin by the acetic acid and taken up by the ether. After settling, the ether which rises to the top of the solution is poured off and to it a solution of guaiac in alcohol is added. To this is added 1 c.c. (15 minims) of the resin of turpentine. The change of color denotes whether blood is present or not. If blood is present in any amount it quickly changes to blue. If there is but a small quantity of blood the change requires some minutes. Before applying this test there should be no meat allowed in the diet for forty-eight hours, to preclude the possibility of the blood test being given by the eating of a meat which contained blood.

TREATMENT

While it is wise, and will be found wise, to operate more frequently for gastric and duodenal ulcer than has been done, the seriousness of the operation is such that every effort should be made to cure the condition medically. The greatest danger from these ulcers causing serious hemorrhage is in their early history, and probably it is at this time that they are most amenable to medical treatment. It is not frequent for patients to die from hemorrhage from an ulcer in these regions, but the fact that it does occur, and the fact that perforation may occur, and the fact that constant hemorrhages may cause profound anemia, makes the condition serious from the very beginning. Again, these ulcers so frequently become quiescent or apparently heal only to cause symptoms later, that it is hardly safe to decide that an ulcer in the region is cured until after the lapse of at least a year, and perhaps two years, of freedom from symptoms.

In attempting to cure an ulcer of the stomach or duodenum the diet becomes of primary importance, as it is the food that is continuously to aggravate the condition. As hyperacidity seems to increase the ulceration, certainly increases the pain, and is likely to increase the vomiting, anything that diminishes the acidity is good treatment, and a diet free from the substances that cause the greatest outpouring of hydrochloric acid is the diet of choice. In other words, a diet without meat and without meat broths, without toast, and without any hard particles of food that can scrape or irritate the inflamed part, should be selected. On the other hand, it does not always seem that a large, straight milk diet, with the probable production of lactic acid and gas during its digestion, is advisable or beneficial. Neither does it seem sensible to prescribe a starvation diet or a total abstinence from food, with rectal feeding which is always insufficient, to cure an ulceration that at the best must require weeks to heal, and this in a patient who is already debilitated and probably anemic. Therefore, the so-called Lenhartz diet with raw eggs is the most sensible as giving nutrition and at the same time inhibiting the production of hydrochloric acid and tending to heal the ulcer.

The raw eggs are beaten up whole and placed in a cup or glass surrounded by ice. The small amount of milk given is also served iced in the same manner, and the egg and milk feedings alternate with each other every two hours, at first two teaspoonfuls of the egg and four teaspoonfuls of the milk. The first day two eggs are used and six ounces of milk. The eggs and milk are gradually increased from this minimum until by the sixth day seven eggs and twenty-two ounces of milk are given. From the third day on a little granulated sugar is added. At the end of a week the number of eggs is reduced and some scraped beef is allowed, with soon a small amount of boiled rice. During the following week, the second week, the eggs may be soft boiled, and four may be administered a day, with the milk increased to nearly a quart, sugar as before, and scraped beef or chopped chicken and rice or bread with a little butter may be gradually added and the diet thus varied. Even when the eggs are used soft boiled, four should be taken a day. Whatever is taken, if solid, it should be very completely and slowly masticated, and as above stated, at first the amounts ingested at one time must be very small and taken at intervals of two hours during the day. The foods for the first week should be taken cold and the next week only warm, never hot. Small sips of iced water may be taken as often as desired or advisable.

During the first week the patient should be fed, not even allowed to feed himself, and he should remain in bed for at least three and better four weeks.

If there is hemorrhage, an ice-bag should be placed over the stomach and a large dose of bismuth subnitrate should be administered, perhaps 3 or 4 grams (45 or 60 grains) at once.

It generally seems advisable to give bismuth in large doses, at least 2 grams (30 grains) once a day. This can be taken stirred up in water or in milk and quickly drunk.

The treatment above suggested generally stops the pain. If pain is still severe morphin should be resorted to, but with this treatment it rarely will be necessary, and the dose required, hypodermatically, is small.

The patient should not get up to urinate or for the bowels; a bedpan should be used. If the patient is constipated, the bowels may be moved by the rectal injection of a half ounce to an ounce of glycerin with an equal amount of water, and soap suds could be used if needed.

As these patients are already short on iron and for a number of days are to receive no meat, it is advisable to give the saccharated oxid of iron (*Eisenzucker*), 3 grains, in tablet form, twice a day. The patient should thoroughly crush the tablet with the teeth before swallowing.

If after a month of this treatment the patient cannot normally convalesce and be apparently cured, in other words, if the symptoms quickly return, an operation should probably be recommended, as the future of such a recurrent case is uncertain. Recurrent severe hemorrhage should cause operation, and, of course, when there is perforation operation is immediately necessary.

FACIAL SPASM AND TIC; TORTICOLLIS

The general practitioner may as well in the first place admit that there is a scientific, psychopathic method of treating patients suffering from nervous mistakes, and in the second place, that such treatment can be carried out successfully only by physicians who have made this branch of therapy a special study.

These points being agreed on, it is most satisfactory to note that Dr. Tom A. Williams, of Washington, D.C., declares (*Monthly Cyclopedia* and [illegible], January, 1910) that many of the supposed incurable and most distressing spasms of the face and neck muscles may be cured. In this paper he ably and carefully discusses the diagnosis of the above conditions from chorea and from the more serious cerebral disturbances. He cites a number of illuminating cases, but does not go into the technic of treatment. If he did, it would hardly be of value to the general practitioner, as if the above preamble is correct and agreed to, patients suffering from these muscle contractions, terrible to themselves, distressing to their friends, and causing moral suffering almost beyond measure, should be referred to a physician who has made a special study of psychopathic treatment.

The object of this reference is to call the attention of physicians to the fact that in many of these supposedly hopeless cases a cure may be effected.

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[For other information see second page following reading matter]

SATURDAY, JULY 16, 1910

MEDICAL MEN WIN RANK IN THE ARMY

Major-General Leonard Wood has returned from South America and this week assumes his duties as the senior general officer of the United States Army. Next in rank is Adjutant-General Fred C. Ainsworth. Both are medical men who entered the army as surgeons. That they should have been able to break through the conservatism of military administration, and to advance so far into fields usually closed to their profession, is to the credit not only of their abilities and force of character, but of the Army itself, which has demonstrated its ability to rise above ancient prejudices and traditions and to utilize its best material. That the Medical Corps should contribute at the same time the senior line officer and the senior officer of the staff is an event sufficiently remarkable to call for more than passing notice.

General Leonard Wood was born at Winchester, N. H., Oct. 9, 1860, and graduated from Harvard Medical School in 1884. In January, 1886, he entered the Medical Corps, and soon distinguished himself in an arduous campaign against the Apaches. The Spanish War found him on duty in Washington where he had made acquaintance with a congenial spirit in the then Assistant Secretary of the Navy, Theodore Roosevelt. A like vigor of mind, combined with moral force and a love of rude physical exercises, drew these men together, and so when war was declared and the command of the regiment of "Rough Riders" was offered to Mr. Roosevelt, he told the President that Dr. Wood was by reason of his twelve years' experience in the Army much better fitted to cope with the technical difficulties of enlisting, equipping and training a new regiment than he, and he proposed that Wood should be appointed colonel and he lieutenant-colonel. This was done, and the fight at Las Guasimas made Wood a brigadier and gave the regiment to Roosevelt.

After the capture of Santiago, Wood was placed in command of that district and in the space of a year his capacity for organization had so clearly demonstrated itself that he was transferred to Havana and made the military governor of Cuba with the rank of major-general of volunteers. In three years he brought Cuba from a naked and devastated land where famine and disease stalked hand in hand, to salubrity and plenty. The death rate in Havana fell from 91 per 1000 in 1898 to 20 in 1902. In the thirty years preceding his appointment as governor there were in the city of Havana 21,448 deaths from yellow fever and 12,722 from smallpox. In the decade since that date there have been 44 deaths from yellow fever and 4 from smallpox.

But the sanitary regeneration of Cuba and the support and assistance given to the Reed yellow fever board are only a small part of the creditable work of the military governor of Cuba. In every direction in which constructive statesmanship can influence the destinies of a nation, the work of Leonard Wood has left an indelible impress on the government and lives of the Cuban people.

In the twelve years since his taking up the duties of a combatant officer, General Wood has held many important commands at home and in the far east and has been an assiduous student of the military profession. His mastery of it is demonstrated by the practically unanimous approval with which the Army received his assignment as Chief of Staff.

The career of Major-General Fred C. Ainsworth, the Adjutant-General of the Army, while less spectacular in character and far less familiar to the public than that of General Wood, is an equally creditable example of the uplifting power of high ability joined to force of character.

He was born at Woodstock, Vt., Sept. 11, 1852, graduated in medicine at the University of the City of New York in 1874 and entered the Army as assistant surgeon the same year. For twelve years he performed the routine duties of a medical officer, most of this period being passed amid the breezy and often exciting surroundings of the western and southwestern frontier. When in December, 1886, he was placed in charge of the record and pension division of the surgeon-general's office, a condition of affairs confronted him which was of grave concern, not only to the War Department but also to the President and to Congress, and which threatened to become a question of national politics. These were years of great activity in granting pensions, and for each application, the medical record had to be sought in the hospital registers, of which there were more than 20,000 volumes, and the record of service verified by consulting the muster rolls, of which there were about 400,000, in every stage of dilapidation. The former was done in the surgeon-general's office, the latter in the adjutant-general's, and each was several months in arrears. The pension office charged all delays to the War Department and the cry went up that a Democratic administration was obstructing the carrying out of the pension laws. By the introduction of good business methods and business discipline among the three hundred clerks of his division, Captain Ainsworth in three months caught up and was enabled to answer each call from the pension office within three days. He then set part of his force to copying the hospital records on cards so that all the entries for each soldier were brought together and could be instantly obtained. When this was completed all applications were answered within 24 hours. A special committee of the Senate which investigated the methods of business in the executive departments recommended the extension of Ainsworth's methods to the other bureaus of the War Department, and the Secretary of War, Mr. Proctor, in 1889, consolidated fourteen divisions of the War Department with 700 clerks into the record and pension division, which was placed under Captain Ainsworth, assistant surgeon. The adjutant-general's office unloaded on him in June, 1889, 40,000 unfinished cases and by the end of September all were disposed of and the current work was well in hand. Congress in 1892 erected this division into a permanent bureau, of which Ainsworth was made the head with the rank of colonel. An additional division of the adjutant-general's office was added to it in 1894 and in 1899 Congress still further enlarged it by the addition of the war records office and raised the rank of its chief to brigadier-general. In 1903 Secretary of War Root still further enlarged it and finally in 1904, on his recommendation, Congress consolidated the record and pension office with what remained of the adjutant-general's office after the transfer to the general staff of the advisory functions formerly exercised by the adjutant-general. The head of this new and great office, which distributes and keeps record of the vast business of the War Department and is its mouthpiece, and which is charged with the recruitment of the Army, besides being the custodian of all of the records of all of our wars, was appropriately given the rank of major-general with the title of military secretary, which was later changed to the present one of adjutant-general.

It may well be imagined by those familiar with the jealousies and contentions of departmental life, that a career so full of strenuous activity and accomplishments, of which the victorious efficiency so constantly extended its boundaries, was not entirely peaceful. In fact under this brief narrative lies many a bitter struggle against narrow prejudice, crossed ambition, jealousy and sloth, besides the vast inertia of bureaucratic conservatism. The veteran Senator Cockrell, who was chairman of the special senate committee mentioned above, and than whom none knew better the inner secrets of departmental history, said on the floor of the Senate in advocating General Ainsworth's promotion: "General Ainsworth has done a work which has never been equaled by any executive officer of this government from 1789 to date, and I challenge any comparison with his record."

Members of the medical profession may be permitted to take some pride in these achievements of their confrères.

METHODS FOR THE QUANTITATIVE ESTIMATION OF ALBUMIN IN THE URINE

Clinicians have long been dissatisfied with the results yielded by the Esbach method for the quantitative estimation of albumin in the urine. The dependence of this method (1) on an exact room temperature, (2) on dilution of the urine when the albumin is large in amount, and (3) on a constant acidity are well-known difficulties. Moreover, the precipitate formed often settles unevenly; there is sometimes difficulty in making a correct reading of the meniscus in the tube and, finally, the picric acid in the solution makes it objectionable to handle on account of the staining of the hands and clothes in case of accident. A distinct advance in the quantitative methods of estimating the albumin in the urine was made by Tsuchiya when he introduced his solution consisting of phosphotungstic acid, hydrochloric acid and ethyl alcohol.

The recent study of Mattice[1] shows the great value of Tsuchiya's reagent[2] when used in a certain definite way. Mattice made a large number of control observations with other methods, with results which speak strongly in favor of the use of Tsuchiya's reagent. He finds that the phosphotungstic method is much more accurate than the Esbach method for comparative quantitative estimation of albumin in the urine and urges that Esbach's solution be supplanted altogether in clinical work by Tsuchiya's reagent. The readings are very little influenced by changes in temperature; foaming or floating of the precipitate is rarely seen; the precipitate settles much more evenly than with the Esbach reagent; it is easy to read the meniscus accurately at the mark on the Esbach tube and no dilution of the urine is necessary.

The method is applicable to high grades of albuminuria as well as to the slightest grades. It can also be used where the albuminuria is complicated by glycosuria. The solution is easily prepared, keeps well and does not stain the hands or clothes. It can, therefore, be warmly recommended for clinical use.

THE BRIEF IN DEFENSE OF THE TEN-HOUR LAW FOR WOMEN

The Illinois Supreme Court recently declared constitutional a law limiting the working-day of women in factories and laundries to ten hours. This decision, aside from its intrinsic interest, is noteworthy because in the arguments for the bill and in the decision rendered by the court stress was laid, not on the legal aspect of the question, but on the demands of public health. The brief submitted to the Supreme Court in defense of the ten-hour law contains but twenty-four pages of legal matter, the remaining five hundred odd pages being devoted to a review of the literature on fatigue.[1] The document thus becomes one of great interest to physicians, for it is probably the most nearly complete compilation that has ever been made of the publications, both medical and sociological, on the subject of what we must, for want of a better word, call "overwork."

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[1] Mattice, Albert F.: The Quantitative Estimation of Albumin in the Urine, Arch. Int. Med., March 15, 1910, p. 313.

[2] Tsuchiya's method was mentioned in THE JOURNAL, July 25, 1908, p. 333. The reagent is a mixture of 1.5 gm. phosphotungstic acid: 5 c.c. concentrated hydrochloric acid, and ethyl alcohol enough to make 100 c.c. This is used in the Esbach tubes in place of the old picric-citric-acid solution, with technic similar otherwise.

Although the primary object of this brief is to show that the demands of public health require legal restrictions on the work of women because of the peculiar importance to the community of the health of mothers, yet the brief is not limited to the consideration of the overwork of one sex only, but discusses fatigue in all its aspects. The experimental work of Mosso, Helmholtz, Ranke, DuBois-Reymond, Weichhardt and Wolff-Eisner is reviewed. The investigations of German, Italian and French writers on the effect of overwork on the different organs, on the effect of night work, of prolonged standing on the feet, of foot-power machinery, of the speeding up required by the "piece-work system," are fully given. There are also to be found statistics of great interest drawn from the working-class insurance records of Germany.

To the American reader one striking feature of this review of the literature is the small part which our country has taken in this most modern field of research. Quotations from American sources are hard to find and when found they consist chiefly of reports of factory inspectors. Few well-known American names are found in this brief. On the other hand, the foreign quotations bristle with familiar names and it is evident that industrial hygiene ranks as high as any other branch of medicine in Europe. Men who are authorities in physiology, pathology and medicine have investigated the effects of fatigue in the different industries, and practicing physicians of the first rank have appeared before legislators to testify in favor of legal restrictions. When the question of early closing was agitated in England in 1888 a bill to shorten the working-day was introduced by the noted scientist Sir John Lubbock and was supported by a petition from the medical profession signed by such men as James Paget, Richard Quain and W. S. Playfair.

There are some very interesting statistics in this brief as to the increase of nervous diseases which accompanies the increased speed of industry and the greater strain on the attention. Thus the State Invalidity Department of Berlin reported in 1906 that 35 per cent. of the cases treated were neuroses of the heart. Nervous breakdown accounted for over one-half of the men patients during the year and over one-third of the women.

The effect of fatigue on the occurrence of accidents is graphically shown by French and Belgian statistics. The number of accidents increases progressively during the morning hours, drops after the noon intermission and then rises from hour to hour till the end of the working-day, affording a practical illustration of Helmholtz' experiments in attention fatigue.

While the health of the woman herself is important to the community, the effect of her good or ill health on the coming generation is even more important, and as this is one of the strongest points in Mr. Brandeis' argument, we find many statements as to the effect of overwork in women on their fecundity and on infant mortality. The most extensive study of the effect on fecundity seems to have been made by Broggi, who states that of 172,365 Italian women between the ages of fifteen and fifty-four years who were employed in industrial occupations, the average child-bearing coefficient was only 45 per cent. or about one-third of the general fertility of Italian women (120 per cent).

Infant mortality in Germany and England seems to increase progressively according to the increase in the proportion of women engaged in industrial work, and this is true even if the mother's work results in a higher standard of comfort in the home. The two classical demonstrations of this rule are the great Lancashire cotton famine and the siege of Paris, during both of which crises there was loss of employment and great privation. In spite of the starvation and the increased general death-rate the infant death-rate fell, in Paris actually 40 per cent., simply because the women, being out of work, were obliged themselves to nurse and to care for their children.

The overwork of women is not so crying an evil in this country as in Europe, for the number of married women obliged to work outside of their homes is far smaller here, but it must be remembered that in many states the child-labor laws are far from adequate, and even in those states where children under fourteen are forbidden to work, there is still ample time between the age of fourteen and the girl's marriage to allow of serious and permanent injury to health—injury which may result in childlessness or in the bearing of sickly children. It is a matter of common observation that the first generation of children born in this country of foreign parents are inferior in physique to their peasant parents; yet it is precisely these girls who go into the heaviest kinds of factory work and have the longest working-day. It is also these girls who are the coming mothers of the American nation.

Since it is impossible to control beyond a certain point those trades which make especially severe demands on the endurance of women workers, the obvious course seems to be to restrict the number of hours which women may be employed in them. The ten-hour law is a step in the right direction, but it is probable that this generation will not pass away without seeing still further steps taken.

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[1] Brandeis, Louis D., assisted by Goldmark, Josephine: Brief and Argument for Appellants. In the Supreme Court of the State of Illinois December term, 1909. This is essentially the same brief as that with which Mr. Brandeis successfully defended the ten-hour law for women in Oregon. It is, however, much more exhaustive than the first one.

THE FUTURE OF THE MEDICAL PROFESSION

Dr. Victor C. Vaughan[1] has made an interesting analysis of the present condition of the medical man in this country, in relation to society in general, to industry and to the other professions. He also ventures to make some prophecies regarding the trend of medical science and the place and office of the future practitioner. Dr. Vaughan shows what has been accomplished in this country for the elevation of the profession through an awakened professional conscience, a high code of ethics and harmonious organization. "This is a commercial age and this is preeminently a commercial country, and yet the medical profession is ridding itself of commercialism. It is demanding of those who desire to enter its ranks a higher degree of culture and intelligence than is demanded of any other profession in this country." He sees the activity and usefulness of the physician rapidly expanding and becoming devoted more to the uplift of mankind than to financial gain. "The world has never been in greater need of the enlightened medical man than it is likely to be in the next generation, and the world will demand that he be worthy of the tasks that will fall on him. No other profession will be able to render greater service to mankind."

In view of the great and increasing cost of medical education and investigation in medical sciences, Vaughan thinks that the government should help to pay for them. "The nation that will profit in the future from the labors and discoveries of the profession must help in this cause. It must make large appropriation for scientific research. It must render financial aid to medical education, which has become too costly for the profession itself to provide, and it must not permit the use of short roads to practice. While the advanced medical educator in this country is doing his best to elevate his profession, pseudo-medicine is filling the lobbies of every state capitol with demands for legal recognition, and too often it happens that our law-makers do not distinguish between the true and the false. This imposes a heavy duty on the profession, namely, the education of the public."

Dr. Vaughan enumerates some of the specific ways in which the medical profession can be of service to humanity, and some of the measures necessary to free the race from disease. Among these are the education of the public in the nature of infectious diseases, and the inauguration thereby of measures to restrict and eradicate such pests; the placing of venereal diseases on the list of dangerous and communicable disorders, and the holding in custody of all persons so affected; and the routine medical examination of every person at least twice a year. This last suggestion gives a wider scope to a plan broached by Professor Irving Fisher, already noticed in The Journal. Unless all signs fail (for many other thinkers have read them in the same sense), the trend of our professional future would seem to be in the direction indicated by Dr. Vaughan, or something closely parallel thereto.

One deduction from these premises, however—it seems to us to be an inevitable one—Dr. Vaughan refrains from drawing, namely, that unless science discovers some way of extracting professional fees from stones, or nutriment from air, there must be a readjustment of the financial relations between the medical profession and the public. Already the profession feels the hardship of having to maintain non-commercial standards while making a livelihood by offering specific individual services to a commercially minded public; and already that commercially minded public begins to realize that every effort of the medical profession to widen the sphere of its public service narrows the circle within which its members may reap individual rewards. What is to be the result in the day when the highest medical skill shall be directed toward the prevention of disease, and an epidemic shall as clearly point to reprehensible neglect on the part of some responsible person as a train-wreck does now? Shall we ever be able to persuade our patients to fee us, as the Chinese are said to pay their physicians, so long as they remain in health? Even if the occidental mind could be brought to regard this procedure as natural, there is an obvious difficulty in the fact that many of the most important works of preventive medicine are not performed for the benefit of any individual; they are public services, and must be paid for, if at all, by the public. Until the day comes, therefore, when the physician's work shall be recognized as essentially a public function, the conscientious physician must be content to regard himself as an unpaid public servant, whose right hand and left are perforce ignorant of each other's doings, since the one is hastily snatching at the indispensable bread and butter, while the other is helping to usher in the new and—let us hope—better order of things.

Current Comment

MALTA FEVER

Commenting on a question recently asked in the British House of Commons, relative to the infection of goats with Malta fever, *Nature*, June 16, says that what makes these animals so dangerous in the spread of the disease is the fact that they themselves are so immune. If Malta fever caused in the goat high fever and the other symptoms that it does in man, the animal would cease to be a danger. It would be confined to its stable and its milk would run dry. As it is, the infected goat keeps in apparent perfect health; and therefore the Maltese themselves refuse to believe that the disease is spread through the medium of the milk and have been exporting their infected goats and thus spreading the disorder. Last year the Sleeping-Sickness Bureau of the Royal Society discovered it infecting a large proportion of the native population on the shores of Lake Albert Edward in Uganda, and the native goats were found to be the carriers. Some Maltese goats imported into the United States in 1906 were found to be infected, and but for the rigid quarantine we might have had the disease epidemic here. As it was all the animals, and even the kids born here, had to be slaughtered within two years to prevent the spread of the infection. The prohibition of the use of goats' milk has completely abolished the disease in the British soldiers and sailors in Malta, though it continues to prevail among the native population. It seems strange that the exportation of Maltese goats should be permitted by the British government or that their importation should be allowed by any other—it is, as *Nature* says, almost beyond belief that it should be so. The importation or exportation of the carriers of an acute infectious disease like Malta fever is hardly comparable with that of tuberculous cattle, as *Nature* seems to infer, though that is sufficiently undesirable to call for restrictions.

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[1] Address on University Day at the University of Cincinnati, published in Science, 1910, New Series, xxxi, 127.

SANITARY REFORM IN TURKEY

Since the revolution in Turkey with the Young Turkish Party in control there seems to be a better prospect for health and hygiene in the Turkish capital. In former times, any proper medical treatment of Turkish women was rendered impracticable by Mohammedan custom. The advent of women missionary physicians, who were allowed to see their patients, probably started the breaking down of the barriers and gradually there has come a change so that at the present time many Turkish women readily submit to the necessary examinations and treatment by the physician. The change has been accelerated by recent events. One of the most striking changes reported is that of public lectures on hygienic subjects, which seem to be fairly started under the auspices of the American College for Girls in Constantinople. This would have been impossible under the old régime, but in the existing conditions the movement seems to have a very promising future. It will take a long time, of course, to reform the many sanitary deficiencies of the Turkish capital and still longer in the provincial towns and rural districts, but a start appears to have been made and prominent Turkish physicians are actively cooperating in the work.

A CENTENNIAL OF THE WATER-CLOSET

In 1810 the water-closet came into general use in Germany and the Germans are this year celebrating "the centennial of the water-closet." Thirty-five years before that date—that is, in 1775—the first British patent ever granted for a water-closet was issued to Alexander Cummings, a watchmaker; while twenty-three years after —or in 1833—the first American patent was taken out. Like all innovations, it came into general use but slowly, and it was not until 1852 that its value was officially recognized. In that year a municipal ordinance for the city of London went into effect that brought the modern system of sewers into being, and with it the general introduction of water-closets. Who at first could have realized the importance of these few quarts of water in a reservoir as solving the problem of permitting sanitary existence in large cities? To-day the water-closet may be regarded as the stamp of civilization; not until a water-closet system is installed can any populous community now rank as civilized and up-to-date.

HONOR TO CROOKES

The British government has conferred the Order of Merit on Prof. William Crookes in recognition of his eminent work in chemistry and physics. This order, established by King Edward VII as a special distinction for men eminent in science, literature or art, is limited to twenty-four members within the British empire, Lord Lister and Sir Joseph Dalton Hooker being the only members of the medical profession so honored. This well-deserved distinction comes to Professor Crookes as a recognition of his standing as one of the foremost chemists of to-day. His most prominent achievements have been the discovery of thallium in 1861, the invention of the Crookes tube, by means of which Roentgen discovered the *x*-rays, and his investigations bearing on a large number of important problems associated with commercial and theoretic chemistry. In 1898 the British Association for the Advancement of Science elected him president, while many scientific bodies have honored him with office or membership. The appointments of Sir William Crookes and Mr. Thomas Hardy, the well-known English novelist, on whom the honor was conferred at the same time, leaves but a single vacancy in the order.

COMPLETE REPORT ON MEDICAL CURRICULUM

Two years ago the Council on Medical Education, recognizing the tendency to overcrowd the medical curriculum, appointed a special committee to make a careful study of the comparative value of each of the subjects taught and to bring in a report recommending what might be termed a model or standard curriculum. Special pains were taken to have this curriculum represent the ideas, if not the ideals, of as large a number as possible of leading medical educators who would represent all sections of the country. The Council selected chairmen for ten subcommittees and each of these chairmen was asked to recommend fifteen other educators in his subdivision of medicine and, from the names submitted, nine additional selections were made for each subcommittee, making a total of one hundred for the entire committee. These committees entered on the work with remarkable energy and enthusiasm, numerous meetings were held, an enormous amount of correspondence was carried on, ideas were submitted to and suggestions obtained from a large number of other educators acting in an auxiliary capacity, and the result was the report on a model medical curriculum which was submitted at the last year's Conference of the Council on Medical Education. The eagerness with which copies of this report have been sought by medical and other teachers shows the deep interest which is being taken in the efforts to improve the medical curriculum. So extensive has been this demand that it was decided to issue another edition[1] of the report which would include also the discussions of the subcommittees so far as they could be obtained. The Council has clearly stated that this curriculum is advanced merely for its educational value and not with the idea that all colleges should conform strictly to it. In fact, absolute uniformity of curricula in all colleges is not desirable, although comparative uniformity would be of much benefit in permitting to students more freedom of migration from one college to another and in facilitating a larger interstate reciprocity in the licensing of physicians.

LIFE PROTECTION IN SUBMARINES

As new conditions arise in the varied human activities they necessitate new provisions for safeguarding life. The submarine proves to be almost as dangerous for the operators as for the foe, and many lives have been lost through collision or failure of the submerged vessel to rise. Complicated arrangements have been devised for the release of the imprisoned crew or the provision of air until they can be released; but now comes a more simple invention. According to the *Scientific American*,[2] it consists of two cylindrical shells, one revolving inside the other. The outer opens both to the sea and to the interior of the vessel, while the inner and revolving one has but one opening, which may be turned to the inside of the vessel so that a man may enter, and then to the outside so as to allow escape into the water. The operation is repeated until all have escaped. Only a small quantity of water is admitted each time. It is certainly simple and if it works it may save many lives. We next need a safe means of slow descent when an airship is wrecked too far above ground to allow one to jump with safety.

Medical News

CALIFORNIA

New Hospitals.—A six-story reenforced concrete hospital, with ninety-five foot frontage, is being built on Pine Street, between Jones and Taylor, by William F. McNutt, San Francisco, and will be ready for occupancy in October. It will be furnished with suitable operating rooms, roof garden and solarium, and will accommodate ninety patients.——The Roosevelt Polyclinic has been opened at 679 Broadway, San Francisco. The following are the heads of the departments: Surgery, Drs. Walter G. Harder and Charles A. Pauson, medicine, Drs. Ralph B. Scheier and Herbert I. Bloch; gynecology and obstetrics, Drs. George K. Herzog and Walter S. Johnson; genito-urinary diseases, Drs. Louis Gross and William Edwards; skin diseases, Dr. J. Cameron Pickett; diseases of the eye, ear and nose, Drs. Albert Cohen and Oscar Tobriner; pathology, Dr. Grace Sinforth.——The Southern Pacific Railroad Company is building a new $10,000 hospital at Dunsmuir, to be completed July 1.——Work is soon to be begun on a $20,000 hospital at Lemoore.——The American Mutual Hospital Association at Taft is about to erect a new building to take the place of the present hospital.——A hospital is being fitted up at Ferndale in the building formerly occupied by the Sisters of Mercy.——The new Kaspare Cohn Hospital was dedicated June 19 at Los Angeles, the hospital being the gift of Kaspare Cohn, a wealthy resident.——A new hospital has been opened at Coalinga, called the San Joaquin.

GEORGIA

College Closes on Account of Typhoid.—Wesleyan Female College, Macon, was closed for the balance of the term on account of an epidemic of typhoid fever.

College Commencement.—At the annual commencement exercises of the Medical Department of the University of Georgia, Augusta, degrees were conferred on ten physicians. Dr. Joseph E. Allen, who has been dean of the medical college for four and a half years, retired and was succeeded by Dr. William H. Doughty.

Personal.—Dr. T. E. Rogers has been elected a member of the house-staff of the hospital at Macon.——Dr. and Mrs. Eugene B. Elder, Macon, are spending their vacation in Berlin.——Dr. Theodore E. Oertel, Augusta, has been elected president of the Antituberculosis and Sanitary Society of the State of Georgia.——Dr. John F. Harris has been appointed on the board of health at Dalton.——Dr. Robert G. Stephens has been elected city school medical examiner at Atlanta, vice Dr. Stewart R. Roberts, resigned.

ILLINOIS

New Hospital.—Work on the new hospital at Monmouth to take the place of the old building has been begun. The hospital will be ready for occupancy by April, 1911, and will cost $37,000.

Personal.—Dr. Anne J. Murphy, formerly house physician at the New England Hospital for Women and Children, Boston, has been appointed on the resident staff of the Edward Sanatorium at Naperville, to have charge of the new laboratory.——Dr. Harry C. Hill and family, Streator, have returned from abroad; Dr. Hill spent most of the time in the hospitals of Vienna.——Dr. Julius Wen Glesky, assistant superintendent and chief of the medical staff of the Eastern Illinois Hospital for the Insane, Kankakee, has resigned. He will go to the Sacred Heart Sanitarium, Milwaukee.——Dr. Charles O. Molz has been appointed assistant surgeon at Murphysboro for the Mobile and Ohio railroad.

Chicago

Less Typhoid in Chicago.—The report for the first six months of 1910 for the city shows 94 deaths from typhoid fever, equivalent to a rate of 8.3 per 100,000 of population. The rate last year, under similar computation, was 12.5 for the first half of the year. This shows the lowest record ever recorded in an American city of 200,000 population or over. The deaths from typhoid in June numbered 10.

Society of Mental Hygiene.—The Society for Mental Hygiene has been granted a charter. Among the organizers are Drs. Henry B. Favill, Sidney Kuh and Alice Hamilton, Miss Jane Addams, Samuel Alschuler and Miss Julia Lathrop. The object is the investigation of the conditions surrounding the commitment of the insane and attending to their welfare after they have been dismissed from institutions.

Report of the Milk Commission.—The preliminary report of the milk commission recently appointed by the mayor to the city council states that in the opinion of the commission, after investigation, the milk supply of Chicago as shown by high bacterial count is probably the dirtiest of any large city in the United States. The commission does not blame the health department for this condition, but states that the department is undermanned and underpaid, and that the whole matter requires further study preparatory to drafting an entirely new set of ordinances concerning the milk supply. For the present the commission recommends that means be provided for the rigid enforcement of existing ordinances by materially increasing the number of inspectors, and also that action be taken by the council to forbid the marketing of any milk at a temperature above 50 degrees F.

MARYLAND

Physician Injured.—Dr. George L. Broadrup, Cumberland, sustained severe injuries, July 8, from being run down by his own automobile. He had failed to throw it out of gear and when he cranked it it rushed forward, throwing him over an embankment and pinioning him against a house, causing a broken ankle, several fractured ribs and bad cuts.

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[1] A copy of the complete report will be sent to any address on receipt of 5 cents for postage.

[2] Scientific American, June 18, 1910, p. 504.

Baltimore

Registration of Midwives.—The Committee of Health calls on all midwives to register by August 1. The law lately passed requires them to register at the health office and to obtain a certificate from the State Board of Health.

Health Notes.—The health report for June shows 193 cases of tuberculosis reported, as against 80 for June, 1909. This is supposed to be due to the fuller reports of the disease now than formerly. There were 89 deaths from the same disease against 83 last year. The total deaths from all causes were 798 against 722 last year; 237 were of children under 5.

Personal.—Drs. C. A. Clapp, E. A. Knorr, Carl Voegtlin, J. M. West, J. Mabry Matthews and Christian Deetjen have sailed for Europe.——At the first meeting of the Municipal Tuberculosis Commission, July 7, Dr. John S. Fulton was elected chairman.——Dr. Marshall West has been made health officer for the First district to take the place of Dr. Arthur H. Mann, who resigned on account of ill health.

Municipal Tuberculosis Commission.—The mayor has appointed the following Municipal Tuberculosis Commission: The mayor (ex-officio), Dr. Thomas McCrae, Dr. John S. Fulton, Dr. Harry Friedenwald, Mr. Henry S. Delaney, Mr. Robert Biggs and Mr. J. B. Noel Wyatt. The board of estimates has appropriated $2,500 to start the work, which aims at nothing less than stamping out the disease here.

Driving the Physician Out of Practice.—The many agencies and activities tending to drive the physician out of practice were enumerated in an address by Dr. Richard C. Cabot of Boston at Johns Hopkins recently. It was maintained that the physician is being superseded by health boards, hospitals, insurance companies and other general welfare agencies, and that the tendency is toward the support of hospitals and hospital physicians by public funds, public health being considered of supreme importance to the nation, superior even to public education. In Boston they have gone beyond most other cities in having nurses in department stores and factories. Cabot calls attention to the fact that five years ago there were twenty-five thousand medical students in the country, whereas there are now but twenty thousand, and the diminution is continuing in this steady ratio. He says physicians face this condition, but should get behind it and help it along, as there is no doubt that in the majority of instances the patient with all the facilities of the hospital, the possibility of team work among the physicians, and the trend to higher specialization, get better results from a hospital than is possible in the office of the practicing physician, and better results, i. e., better public health, is what the nation wants. It is of vital importance, and not even second to education, which the state already has assumed charge of.

NEW JERSEY

New Tuberculosis Pavilion.—A new tuberculosis pavilion located on the grounds of the Isolation Hospital at Paterson was opened for patients July 1. It is a model institution.

Sum Raised for New Hospital Building.—For the purpose of erecting a new homeopathic hospital building, the trustees, board of managers, the medical and surgical staff and the citizens' committee have succeeded in raising $100,190 in Camden, after a campaign of twenty days.

Hospital Plans Extension.—Announcement has been made that a contract has been awarded at Camden for a new building for the use of the Cooper Hospital out-patient department and for other purposes at a cost of $60,000. The removal of all private patients to this new building will enable the hospital to use the rooms now occupied by such cases in the main building, for ward purposes.

Trenton Water Supply.—Suit has been brought against the city of Trenton under the law of 1909 to compel the purification of Trenton's public water supply. Affidavits submitted show that the supply is polluted. Under the above law the state board of health has a right to institute suit in the Court of Chancery against the offending municipality to obtain purification of the public water supply. The report of the state board of health for June shows that the public is beginning to realize the value of the examination of water supplies by the state board of health, as more numerous requests for such examination are being made. The report also shows that the number of deaths from cancer has increased, the report for June showing the highest number of deaths, with one exception, for any month during the past four years.

NEW YORK

Keuka Lake Society to Meet.—The eleventh annual meeting of the Keuka Lake Medical and Surgical Association, whose membership embraces twelve counties in central and eastern New York, will be held at Grove Springs, Lake Keuka, July 21 and 22. A program of fourteen papers has been prepared. Dr. Robert M. Elliott, Willard, is president and Dr. H. B. Nichols, Syracuse, secretary.

The Fight Against Tuberculosis.—The Charity Organization Society, the State Charities Aid Association and the New York State Department of Health, organizations which are conducting the crusade in this state against tuberculosis, report that New York leads the country with 5,476 beds for consumptive patients. Massachusetts provides 2,403, Pennsylvania, 2,347, Colorado, 1,489 and New Mexico, 1,104. Facilities in this direction are, however, very inadequate.

Personal.—Dr. Mercer C. Robinson, Rochester, is in the hospital suffering from severe injuries received in a collision between his automobile and a street car.——Dr. Ira C. Whitehead, health officer of Montgomery, has smallpox, which it is supposed he contracted during a recent visit to the Immigration Bureau in New York.——Dr. Archibald M. Campbell, Mount Vernon, has sailed for Europe.——Dr. Aspinwall Judd and Dr. William J. Robinson and family, New York City, have sailed for Europe.

Harbor Pollution.—The Metropolitan Sewage Commission has reported that the sewage which is being emptied into the harbor is creating conditions which are unsanitary and a menace to public health. Tidal studies carried on in connection with the United States Coast and Geodetic Survey show that the drainage which is discharged into the harbor is not flushed out to sea but is assimilated by the water. The commission recommends that an interstate board be created by New York and New Jersey to plan a system that will protect the harbor for all time to come.

New York City

Suspicious Hospital Fires.—There have been two fires recently in the Kings County Hospital, Brooklyn. The last one on July 5 caused $2,000 damage and threatened the lives of 250 people. Investigation seems to indicate that they are due to incendiarism and arrests are expected.

The Peoples' Hospital.—This institution, situated on lower Second avenue, was dedicated June 21. It was built and presented to the public through the efforts of Austro-Hungarian citizens, the emperor of Austria having donated an operating table. The building has accommodations for fifty patients.

A Roof Camp.—A camp has been opened on the roof of the New York Throat, Nose and Lung Hospital on East Fifty-seventh Street for the treatment of tuberculosis patients. The camp is open on three sides and has ventilating skylights. It has a dining room, dormitory, dressing rooms and a shower bath.

Seizure of Ice Cream Cones.—More than 4,500,000 ice cream cones were seized by United States Marshal Henkel of New York, under the pure food law, on the ground that they contained boric acid and were detrimental to the public health. They were intended for shipment to Galveston, Tex. It has been found that ice cream cones are often composed largely of glue.

To Stop Smoke from Autos.—The amendment to the sanitary code relating to smoking automobiles has become operative. Drivers and owners of autos that throw out smoke are liable to arrest and fine. Seventy men of the sanitary squad were on duty when the amendment went into effect to see that it was obeyed. A slight smoke is overlooked or passed with only a warning.

Donations to Medical College.—Word from Dr. Royal S. Copeland, dean of the New York Homeopathic Medical College and Flower Hospital, states that $25,000 has recently been donated by the alumni and by the trustees for improvement of the laboratories and for changes in the college building. Several full-time salaried instructors in the laboratory branches are to be added.

A Sane Fourth in New York.—In accordance with the city ordinance forbidding the sale of fire crackers, fireworks, etc., these things were not on sale and the city had a quiet and orderly day. The health department had laid in the usual supply of tetanus antitoxin and sent out the usual directions for its use. Not only were there very few instances where the antitoxin was needed, but there was a great falling off in the number of fires. Last year there were 176 fires attributable to fireworks, while this year there were only 33. The damages from fires were only a little more than three thousand dollars this year against $20,000 for 1909.

NORTH CAROLINA

Tuberculosis Exhibit.—The National Tuberculosis Association recently held a very successful exhibit in Winston, creating much interest, the exhibit being inspected by several thousand people.

State Medical Board.—At the forty-eighth annual session of the State Board of Medical Examiners, at Wrightsville Beach, June 15-23, the board was reorganized with the election of Dr. Lewis B. McBrayer, Asheville, president for the ensuing year. Dr. Benjamin K. Hays was reelected secretary-treasurer.

Society Meeting.—The Sixth District Medical Association held its regular session at Raleigh recently. In addition to the instructive papers read, clinics were given at the Raleigh hospital. The following were elected officers: President, Dr. George W. Long, Graham; vice-president, Dr. Louis J. Picot, Raleigh; secretary, Dr. Charles A. Woodward, Durham.

Work of Hookworm Commission.—The North Carolina State Board of Health, working in conjunction with the Rockefeller hookworm commission, has appointed Dr. John A. Ferrall, special assistant secretary of the board for hookworm work. At a recent session, the state was divided into districts and the following physicians elected to make a thorough canvass of the state, working along anti-hookworm crusade lines: Dr. B. W. Page, Snead's Ferry; Dr. C. F. Strosnider, Wilmington; Dr. Claud L. Pridgen, Kinston.

Personal.—Dr. Benjamin K. Hays, Oxford, has been appointed local surgeon of the Southern Railway at Oxford.——Dr. David J. Hill, Lexington, has been appointed local surgeon of the Southern Railway at his home town.——Dr. Robert L. Payne, formerly of Lexington, has been appointed chief surgeon of the Norfolk & Southern Railway with headquarters at Norfolk, Va.——Dr. John Miller Faison, of Faison's, Duplin County, was nominated by the democratic party of the third district for Congress. Dr. Faison is a well known practicing physician, a prominent member of the State Medical Society, and his political recognition is appreciated by many friends in the profession.——Dr. John E. Ashcroft, Monroe, has been elected a member of the State Board of Health, vice Dr. James A. Burroughs, Asheville, deceased.

State Medical Society Meeting.—The fifty-seventh annual session of the Medical Society of the State of North Carolina was held at Wrightsville Beach June 21-23, under the presidency of Dr. Edward Jenner Wood, Wilmington, vice Dr. James A. Burroughs, president, deceased. The attendance was the largest in the society's history for a session at an extreme point in the state, more than 300 members being present. The session of 1911 will be held in Charlotte. The following officers were elected: Drs. Chalmers M. Van Poole, Salisbury, president; James V. McGougan, Fayetteville; William E. Warren, Williamston, and Lucius N. Glenn, Gastonia, vice-presidents; David A. Stanton, High Point, secretary; Herbert D. Walker, Elizabeth City, treasurer; James M. Templeton, Cary, orator; Samuel A. Stevens, Monroe, essayist; John M. Campbell, Morganton, leader of debate; Jacob F. Highsmith, Fayetteville, and J. Howell Way, Waynesville, delegates to American Medical Association, 1911-12. At one general session a conference on hookworm disease was held and a paper was read by Dr. Charles Wardell Stiles, scientific secretary of the Rockefeller hookworm commission. A night session was given over by the society to memorial exercises in honor of the thirty members who died during the year. Dr. J. Howell Way, of Waynesville, made an address on the life and character of Dr. James Anthony Burroughs, of Asheville, who was president of the society at the time of his death, and Dr. William Henry Harrison Cobb, of Goldsboro.

OHIO

Tuberculosis Hospital.—Construction has begun on the new tuberculosis hospital of the county infirmary at Columbus.

Public Health Bulletin.—The Board of Health of Columbus has begun publication and distribution of a bulletin to educate the public in sanitary and hygienic matters, following the plan of other cities.

College Merger.—It is reported that the Pulte Homeopathic College is to be merged with the Cleveland Homeopathic College. The consolidated school will be located at Cleveland and will be known as the Cleveland-Pulte Homeopathic Medical College.

Health Board News.—The mayor of Cleveland has appointed Drs. Edward F. Cushing and James E. Cogan on the health board of that city, and $40,000 has been voted to the board of health to complete the contagious disease hospital and to fight smallpox.

School for Medical Officers.—A school for medical officers of the Ohio National Guard, the first of its kind in the state, was held at Columbus in June. Major Joseph A. Hall, Cincinnati, acting surgeon-general of the guard, was the originator of the plan. The officers were instructed by Major Edward L. Munson, medical corps, U. S. army, and Major S. B. Taylor, medical corps, Ohio N. G. The meeting was attended by more than fifty members of the medical staff.

Personal.—Dr. Luther B. Turner, Columbus, has been elected district physician to succeed Dr. Lewis D. Wolfe, who resigned.——Dr. Arthur M. Harrison, Bowling Green, has been appointed assistant surgeon in the medical corps of the Ohio National Guard with rank of first lieutenant.——Dr. Robert H. Butler, Bellefontaine, has been appointed an assistant clinical instructor on the faculty of the Ohio-Miami Medical College, Cincinnati.——Dr. John C. Jones, a member of the board of education of Cleveland, and two daughters, are in Europe.——Dr. George M. Osborne, Portsmouth, has retired from practice.——Dr. Robert C. Longfellow, Toledo, in recognition of work done in laboratory pathology and bacteriology, has been given the degree of M.S. by St. John's University, Toledo.——Dr. John C. Fox, Cleveland, has been appointed physician at the City Hospital.

Changes at the University of Cincinnati.—At a meeting of the trustees of the University of Cincinnati, May 31, on the recommendation of President Dabney, a complete reorganization of the faculty of the Ohio-Miami Medical College (medical department of the University of Cincinnati) was adopted. It was found during the year just closed, the first year of the union of the Ohio and Miami colleges, that the faculty was much too large and consequently too unwieldy. The new plan provides for a clinical head and a didactic head in the more important departments, while in the smaller departments the two positions will be combined. The plan also provides for a salaried dean. The chiefs of the fundamental chairs of anatomy, physiology, pathology and chemistry will be on salary and will devote their entire time to the work. Dr. Paul G. Woolley, formerly of the University of Nebraska College of Medicine, is now the professor of pathology with Dr. William B. Wherry as assistant professor of bacteriology; Dr. Martin H. Fischer, of the Oakland (Cal.) College of Medicine and Surgery, has been secured as professor of physiology. A full-time professor in anatomy is still to be secured.——Dr. Charles E. Howard has been appointed receiving physician to the Cincinnati Hospital, vice Dr. Robert D. Mussey, resigned.——Dr. Rufus B. Hall has been appointed gynecologist to the Cincinnati Hospital, vice Dr. Charles L. Bonifield, resigned.

PENNSYLVANIA

Personal—Dr. H. J. Huber of Lancaster has located an office at Reading.——Dr. Leo Mundy of Wilkes-Barre will take charge, for several weeks, of the State Hospital at Holidaysburg, Blair county.

New Hospital at Wilkes-Barre.—It is planned to have a new hospital ready by November 1 at Wilkes-Barre. The physicians interested have empowered a committee to purchase a site at Hanover street and Carey avenue.

Scarlet Fever Prevents Outing of Insane.—The usual picnic at the State Hospital for the Insane which was to be held on July 4, was postponed because of scarlatina in a nurse. She was removed to the Municipal Hospital, Philadelphia, and a possible epidemic prevented.

A Prize Paper.—The State Pharmaceutical Association of Pennsylvania recently awarded its twenty-dollar gold prize to Dr. F. E. Stewart for his paper on "Patents and Trade-Marks," which was read before the Philadelphia branch of the American Pharmaceutical Association.

Sanatorium Receives Donation.—The Berks County Tuberculosis Society received two checks from wealthy philanthropic women of Reading. The money will be used toward the expense of a second building at the society's camp on Neversink Mountain for the accommodation of sixty additional patients.

Meeting of County Society.—The Blair County Medical Society met at Blair County Hospital, Altoona, June 28. Dr. W. M. Late Coplin, professor of pathology at Jefferson Medical College, delivered the chief address. The hospital was inspected and Dr. Sommers, its superintendent, gave a luncheon.

Tuberculosis Notes.—The Board of Health of Reading decided, June 27, to prohibit the use of public drinking cups.——The State Tuberculosis Exhibit was held in Wilkinsburg, near Pittsburg, June 28 to 30. Dr. John Bouse of the State Health Department, addressed a meeting on June 28 on tuberculosis in Pennsylvania.

Alumni Association Meets.—The Lehigh Valley Alumni Association of the Medico-Chirurgical College of Philadelphia met at Easton, June 26, and elected the following officers: President, Dr. F. E. Ward, Easton; vice-presidents, Drs. W. G. Tillman, Easton, Jacob Fraunfelter, Nazareth, and C. S. Kemper, Bethlehem; secretary, Dr. V. S. Messinger, Easton.

Williamsport Hospital Report.—In the annual report attention was called to the fact that the hospital has expended during the past decade for additions, new buildings and improvements $167,800, of which only about one-fourth was money secured from the state. The institution has grown to three times its former size and capacity, while its indebtedness for maintenance is less than one-seventh of what it was ten years ago. More patients were admitted last year than in any previous twelve months in its history, the average daily number being 92.2. The executive committee is composed of Dr. George D. Nutt, Dr. H. G. McCormick and Samuel N. Williams.

Philadelphia

Personal.—Dr. T. J. Ellinger, operated on for appendicitis July 9, is improving rapidly.——Dr. W. Wayne Babcock and Dr. and Mrs. Ellwood Matlack have sailed for Europe.

Physician in Serious Accident.—Dr. B. Franklin Stahl, while enroute to Maine in an automobile, was seriously injured by the turning over of the machine on a steep grade near Great Barrington, Mass. Mrs. Stahl was killed instantly. Dr. Stahl is lecturer on dietetics in the University of Pennsylvania, and wrote an article for the last Automobile Number of THE JOURNAL.

TEXAS

Personal—Dr. Whitfield Harral, medical director of the Southwestern Life Insurance Company, Dallas, was elected director of the exchange department of the American Life Convention at a meeting in Dallas, July 2.

Vaccination at El Paso.—On account of the recent epidemic of smallpox in northern Mexico, the health board of El Paso vaccinated over 5,000 persons and issued certificates of vaccination to over 12,000 people. The quarantine has been raised at El Paso and Juarez.

Society Meeting.—At a meeting of the Taylor County Medical Society held on June 27, in Abilene, Dr. Charles M. Rosser, Dallas, delivered an address on "Cancer of the Uterus." A dinner was given in honor of Dr. Rosser at the Hotel Grace. Covers were laid for thirty.

Laboratory of Preventive Medicine.—The board of regents of the University of Texas, at a meeting held May 31 at Galveston, approved the plans submitted by the faculty of the Medical Department for building and equipping a laboratory of preventive medicine and public health.

State Board Meeting.—At the meeting of the State Board of Medical Examiners, ending June 30, the following officers were elected: Dr. James D. Osborn, Cleburne, was reelected president; Dr. John D. Mitchell, Fort Worth, was reelected vice-president, and Dr. Robert H. McLeod, Palestine, was elected secretary-treasurer. Governor Campbell, the judges of the higher courts and the members of the board dined together at the Driskill Hotel, June 30.

College Commencement.—At the commencement exercises of the medical department of Fort Worth University, eleven physicians were graduated. Dr. Charles W. Stiles, U. S. P. H. and M.-H. Service delivered the principal address on "Hookworm and Typhoid Fever." Dr. Stiles said that it is through lack of sanitation that hookworm spreads and with it typhoid fever, which he claimed were the most loathsome and useless diseases known in medical annals. He said that we are dirtier than the Italian, that the Prussian equaled the American in conceit, but that no nation on earth equals us in filth. He declared that over 35,000 people die annually from typhoid fever in this country and our filth is responsible for it.

WISCONSIN

College Commencement.—At the seventeenth annual commencement exercises of the Wisconsin College of Physicians and Surgeon, Milwaukee, medical degrees were conferred on six graduates.

State Appointments.—The State Board of Control of Wisconsin Reformatory, Charitable and Penal Institutions has appointed the following physicians: Dr. Charles Gorst, superintendent of the Mendota Hospital for the Insane; Dr. W. A. Sherman, superintendent of the Northern Hospital for the Insane, Oshkosh; Dr. L. Rock Sleyster, physician to the State Reform Prison at Waupun; Dr. Alfred W. Wilmarth, superintendent, and Dr. Augustus L. Beier, assistant superintendent, Home for Feeble-Minded at Chippewa Falls, and Dr. John W. Coon, superintendent of the Tuberculosis Sanatorium at Wales.

Bequest to Medical School.—By the will of the late Dr. Byron Robinson of Chicago, of the class of '78, the Medical School of Wisconsin University receives his collection of books amounting to over 1,500 volumes. The library is unusually rich in early American medical treatises and old anatomic plates, besides modern works on anatomy, and on the history of medicine. A scholarship in anatomy worth $550 a year was also provided for in the bequest. The library is to be known as the Robinson-Waite Library in honor of the donor and his wife, Dr. Lucy Waite Robinson. The scholarship is to be known as the Byron Robinson scholarship in anatomy.

State Society Meets.—At the recent meeting of the State Medical Society of Wisconsin in Milwaukee the following officers were elected: President, Dr. Byron M. Caples, Waukesha; vice-presidents, Drs. John M. Dodd, Ashland; Theodore J. Redelings, Marinette, and Wilson Cunningham, Platteville; secretary, Dr. Charles S. Sheldon, Madison; assistant secretary, Dr. L. Rock Sleyster, Waupun, and treasurer, Dr. Sidney S. Hall, Ripon. To act on Council on Health and Public Instruction of American Medical Association, Dr. Charles R. Bardeen, Madison, vice W. B. Hill; delegate to National Legislative Council, Dr. Byron M. Caples, Madison; delegate to Council on Medical Education, A. M. A., Dr. M. P. Ravenel, Madison; delegates to A. M. A., Drs. Charles Sheldon, Madison, and A. H. Levings, Milwaukee; alternates, Drs. W. Cunningham and R. G. Sayle. The 1911 meeting will be held at Waukesha. Dr. Richard M. Pearce of the Carnegie laboratories, New York, and Dr. Joseph C. Bloodgood, Baltimore, were the guests of the society.——The first annual meeting of the Association of County Secretaries and Officers of the State Medical Society of Wisconsin was held in Milwaukee just prior to the meeting of the state society. There was a good attendance and many subjects relating to organization were discussed.

GENERAL NEWS

Printers' Tuberculosis Sanatorium.—At the meeting of the International Printing Pressmen and Assistants' Union at Columbus, provisions were made for the establishment of a national tuberculosis home for printers and pressmen at Hales' Springs, near Asheville, N. C.

Beriberi in the Philippines.—Dr. Victor G. Heiser, director of health in the Philippines, has evolved a plan which will make the Philippine Islands the first country in the east to wage a systematic war on beriberi. It is believed from recent studies that the disease is caused by a continued diet of polished rice, and Dr. Heiser proposes to abolish its use in the government workshops, prisons and other public institutions and substitute therefor red rice, containing phosphorus, the lack of which causes beriberi. An idea of the ravages of this disease in the Philippines may be gained from the fact that in the city of Manila alone the number of deaths from beriberi is 1,600 annually.

Prize Offered by International Dairy Federation for Essay on Milk.—The International Dairy Federation offers a prize of 500 francs ($100) for the best work on the comparative value of raw and cooked milk, to be submitted to the International Dairy Congress annually. The exact question is as follows: "To determine by latest experiments, made at least in part on man himself, the comparative nutritive value of raw milk and cooked milk (pasteurized, sterilized or desiccated). In case of an advantage in favor of raw milk, to determine the rôle that the enzymes of the milk play in nutrition." This prize is a permanent one, and is to be conferred at each of the international sessions of the Dairy Congress. Papers may be in French, German or English, and should be forwarded to the Secretary-General of the International Dairy Federation, 23 Rue David Desvachez, Brussels-Uccle, Belgium, not later than April 1, 1911.

Health in the Philippines.—The annual report of the Bureau of Health of the Philippine Islands—July 1. 1908, to June 30, 1909—contains a review of the work done by the department under Dr. Victor G. Heiser, Director of Health. The pamphlet is well illustrated and contains numerous charts, together with statistical tables covering the health and vital statistics from every angle, and the report shows that much effective work has been done [illegible] anitation and health of the islands. Manil [illegible] city, and much public improvement work [illegible] 'ere, a large portion of the report is taken up with what has been accomplished in that city. A new gravity water system, the supply for which is collected from an uninhabited watershed, has been so far completed that the water from it was turned on in November. In May the new sanitary sewer of the city was completed, but according to the quarterly report of the department for the last quarter of 1909 not a large number of house connections have yet been made, owing to the fact that many houses are of cheap construction and the owners cannot afford to install plumbing, the cost of which in many instances would equal or exceed the value of the property. The full benefit of the new sewer system on health conditions has not therefore been had. The bureau of public works sunk about 40 artesian wells and the provinces about as many more. The Baguio Hospital at Benguet, with a capacity of 44 patients, was opened in July. The modern reinforced concrete hospital at Bilibid, with a capacity of 376 patients, was put into use in February. The capacity of the Culion leper colony was increased to accommodate 1,900 lepers. It is found that leprosy is decreasing, so that one case in 2,800 of population is now discovered as against one in 2,000 previously found. Lepers are being collected in all the provinces and isolated in the Culion colony. A hookworm commission was placed in the field at Taytay and another at Las Piñas. Extensive drainage improvements were made on the San Lazaro Estate, making it possible to transfer over 1,000 persons who had previously occupied insanitary areas. In addition much routine work has been done by the department, including the suppression of a number of epidemics of cholera. It has been found in Manila that many cases have been reported as meningitis which on investigation proved to be cholera, and in many instances these were the foci from which subsequent outbreaks of cholera occurred. The report states that it is becoming more evident that by the observance of a few simple rules good health can be maintained with more certainty in the tropics than in temperate climates. Among the rules set out are the following: Be vaccinated; never drink water unless it has been boiled or distilled and never eat raw vegetables; thus you will avoid dysentery, cholera, typhoid fever and other intestinal diseases; fruit grown on trees may be eaten with impunity; do not use "patent medicines" or alcoholics; they are not necessary; sleep under a good mosquito net. Mosquitoes of the disease-carrying variety generally only fly at night. Otherwise observe the same hygienic rules that are applicable to temperate climates. The report contains studies of the different diseases and the methods employed in the different cities and provinces to combat them, the whole showing that conditions are constantly improving.

FOREIGN

Monument to Professor D'Urso.—During the annual session of the Sicilian Medical Association, held at Messina recently, a monument to its former president, G. D'Urso, a victim of the Messina earthquake, was unveiled in a public square.

Brazilian Neurologic Society.—At the meeting of the Brazillian Society of Neurology, Psychiatry and Legal Medicine, held at Rio de Janeiro, May 1, the following officers were elected: President, Prof. Juliano Moreira of Rio de Janeiro, director of the National Hospital for the Insane; vice-president, Dr. Carlos Eiras: *secretaries*, Dr. H. Roxo and Dr. Mario Pinheiro, and treasurer, Dr. A. Ramos.

Prize to Sanfelice for His Research on Cancer.—The Balbi-Valier prize of $600 was awarded this year to Prof. F. Sanfelice of Messina for his fifteen years of research on cancer which have resulted in the production of his cancer serum. (It was described in The Journal, June 26, 1909, page 2117.) The prize is awarded biennially to an Italian by the Venice Regio Istituto di Scienze, Lettere ed Arti for the greatest progress in medicine or surgery during the preceding two years.

Personal.—Dr. Wilhelm Roux, professor of anatomy at Halle, eminent for his contributions to embryology, celebrated his sixtieth birthday June 9, and a *Festschrift* in two volumes was presented to him.—Dr. E. A. Schäfer, professor of physiology in the University of Edinburgh, has received an honorary doctorate of medicine at the University of Berne, after lecturing at the university on "The Functions of the Pituitary Body."——Dr. Wolferstan Thomas, assistant lecturer in the Liverpool School of Tropical Medicine, has been appointed director of the new laboratories established in the state of Amazonas.——Surgeon E. L. Atkinson, R. N., is to accompany Capt. R. F. Scott and his Antarctic expedition, as doctor, bacteriologist and parasitologist.

Other Deaths in the Profession Abroad.—Dr. Edward Creswell Baber, M.B., L.R.C.P., M.R.C.S., linguist, scientist and laryngologist, a son of Dr. John Baber, of London, England, died in London May 14. He was noted for his studies of the thyroid in the lower animals, and as a laryngologist. He practiced in Brighton, where he was the founder of the Brighton Throat and Ear Hospital, and also in London.——Sir Francis Seymour Haden, F.R.C.S., of London, the famous etcher, and a noted surgeon in his day, died June 1 at Bramdean, Hampshire, aged 92.——William Rose, B.S., F.R.C.S., emeritus professor of surgery in King's College, author of works on surgery, died May 28 in London, aged 63.——William Henry Spencer, M.A., M.D., Cantab., M.R.C.P., Lond., formerly senior physician to the Royal Bristol Infirmary, died at Oxford, May 27, aged 73.——P. J. Pick, M.D., professor of dermatology at Prague until 1906, founder in 1869 of the *Archiv für Dermatologie und Syphilis*, died at Prague recently in his seventy-sixth year. The hundredth volume of his *Archiv*, which was dedicated to Caspari, contained a notable report from Pick on the later history of his syphilis patients. He aided in founding in 1898 the German Dermatologic Society and has been its perpetual president since, has contributed over 200 works on dermatology to the literature, and introduced iodoform into dermatologic practice as also the medicated gelatins.——Paulin Trolard, M.D., professor of anatomy in the Algiers College of Medicine.

LONDON LETTER

(From Our Regular Correspondent)

London, July 2, 1910.

A New Development in Library Work

The Royal Society of Medicine has instituted a new development by which its magnificent library may be useful to its fellows living in any part of the world. Short abstracts are prepared for them gratis, of papers and even of books, on any medical subject, and references to medical literature searched for and checked. This innovation has been warmly welcomed and grateful letters have been received from such remote places as the Chitral Valley, the Sudan and equatorial Africa, where for years men have had their work hindered by the inaccessibility of libraries. Some say that the work is done for them even better than if they had been in London, for they would probably not have been able to devote the many hours required for the research which the machinery of the library procures with a minimum of time and labor.

Relation of Medicine to Surgery

In recent years the development of the surgery of the internal organs—abdominal surgery, thoracic surgery and brain surgery—has involved a considerable encroachment by the surgeon on what was once the exclusive province of the physician and the process is by no means at an end. In a letter to the *Times* a layman advocates the handing over of appendicitis in particular and abdominal disease in general from the physician to the surgeon on the grounds that the latter's experience is more valuable, "he sees inside and outside," etc. This has called forth a reply from Sir Clifford Allbutt who points out that in the Hippocratean age there was no division of the art into medicine and surgery and Celsus recognized no such division. It was left for imperial Rome, with its formal ideas and medical slaves to initiate and for the feudal and ecclesiastical societies of the middle ages to extend and perpetuate the separation of the medical bookman from the medical workman. "The division between medicine and surgery was *not* a division of nature but an arrogant repudiation of the part of the hands in the work of the world." This fantastic separation of the thinker from the craftsman has produced, Sir Clifford says, enormous hindrances and ambiguities to which the divided practice in some cases of appendicitis calls attention. The gynecologists, who have seen the evil, have thrown over the convention and practice all the methods which the cases under their care require. The whole profession will have to follow suit and liberate physicians for the complete performance of their own responsibilities. These contentions do not question the need of specialism. This is another problem. One physician will make himself completely efficient in abdominal disease; another in diseases of the pelvis; another of the chest, and so on; while some will prefer diseases in which, if surgery is not yet applicable, the most excellent education of the hand will be maintained by chemical and other manipulations. There is no longer place for the mere academic or book-doctor. For this integration of medicine and the healing of its crippling schism, Sir Clifford recommends the amalgamation of the Colleges of Physicians and Surgeons into an Academy of Medicine.

Medical Missionaries

The important part played by physicians in missionary work was shown at the World Missionary Conference which has recently taken place at Edinburgh, where it was freely admitted that medicine was a most powerful auxiliary to doctrinal teaching. Of the 5,522 Protestant regular missionaries now at work in the world 641 men and 341 women are medically trained and duly qualified. There are 550 hospitals and 1,024 dispensaries employed in missionary work. On the question of the training of medical missionaries there was a unanimity of opinion that the medical missionary could not be too highly trained in his profession. Candidates were advised to take postgraduate study in such subjects as tropical diseases and ophthalmology. It was further suggested that practical experience of hospital work as a resident, either at home or on the field, was desirable before undertaking the duties of a medical mission station for the first time.

Artificial Teeth the Cause of Death

A curious case of death the remote result of a motor accident has been the subject of a coroner's inquest. A woman while cycling in December, 1908, was knocked down and run over by a motor car. Her skull and clavicle were fractured. She was wearing a plate bearing four artificial teeth. This was missing from her mouth but two teeth and part of the plate were found in the car. What had become of the others was a mystery. She was discharged from hospital in January, 1909, and her recovery was so complete that she married in the following November. But ever since the accident she complained of throat symptoms. Three weeks ago she returned to the hospital, where she died this week. The postmortem examination showed in the esophagus the missing piece of the plate with the two teeth attached, fastened deep in the tissues by its gold hook. Round this an abscess had developed which caused death.

Ophthalmology at Oxford

Oxford University was the first body in this country to grant a diploma in ophthalmology. Candidates must have taken courses of instruction in the university on the anatomy, physiology and diseases of the eye. The course of anatomy and physiology extends over two months and that on diseases of the eye over three months. Another feature of Oxford is the Congress of Ophthalmic Surgeons which is held annually. This year it will assemble at Keble College, July 20 to 22. The special feature of the congress will be operations for cataract and glaucoma, which will be performed by some of the most eminent specialists, among others, Professor Lagrange of Bordeaux, Professor Holth of Kristiania, Professor Heine of Kiel, and Colonel Herbert of Nottingham, who will each perform his own operation for glaucoma. Sir Anderson Critchett will operate for cataract and Major Gidney will perform the intracapsular cataract extraction practiced by Major Smith. A novel feature of the congress is that there will be no papers and discussion, but a series of demonstrations and exhibitions.

Visit of American Surgeons to England

A party of the members of the American Society of Clinical Surgery are making a tour of the principal surgical clinics of this country. They include Samuel Alexander, Kansas City; Willard Bartlett, St. Louis; Arthur D. Bevan, Frank Billings, M. L. Harris, J. B. Murphy and L. L. MacArthur, Chicago; Joseph A. Blake, George E. Brewer, Ellsworth Eliot, L. W. Hotchkiss and George Woolsey, New York; Ernest A. Codman, F. B. Lund, J. C. Munro and C. A. Porter, Boston; Gwilym G. Davis, C. H. Frazier, J. H. Gibbon, J. T. Hutchinson, Edward Martin, R. H. Harte and R. G. Le Conte, Philadelphia; John M. T. Finney and Harvey Cushing, Baltimore; Charles H. Mayo, Rochester, and Emmet Rixford, San Francisco. The tour in London includes visits to the following hospitals: St. Thomas's, King's, Middlesex, Guy's, St. Bartholomew's, London Temperance, National Hospital for Epilepsy. Mr. Makins, Sir Watson Cheyne, Mr. Bland Sutton, Mr. Arbuthnot Lane, Mr. Lockwood, Mr. H. Patterson and Sir Victor Horsley are doing the honors at the respective clinics. The Frimley Sanatorium for Consumptives and the Museum of the Royal College of Surgeons will also be inspected. From London the party will go to Edinburgh where they will visit the Royal Hospital Infirmary and the Hospital for Sick Children and be received by Mr. Alexis Thomson and Mr. Harold Stiles. Thence they will proceed to Newcastle and Leeds to visit the clinics of Mr. Rutherford Morison and Mr. Moynihan, and finally to Liverpool to the clinic of Mr. Robert Jones.

PARIS LETTER

(From Our Regular Correspondent)

Paris, July 1, 1910.

Against Infant Mortality

The Ligue Contre la Mortalité Infantile has just held its first general assembly under the presidency of M. Mirman, director of public charities and hygiene at the Ministry of the Interior. Dr. Aviragnet, secretary of the society, read the general report, from which it appears that infants' consultations have been created within several years in 61 departments and are in regular operation in more than 380 localities. Dr. Aviragnet demanded that besides commercial milk there should be a specially controlled milk for infants and invalids, as in certain foreign countries. M. Mirman delivered an address on the means at the disposal of the government to combat infant mortality. He indicated that the Théophile Roussel law, which established medical supervision over children entrusted to hired nurses, affects annually only 170,000 children under 2 years. Since the births amount to almost 800,000 a year a great many young children are not under any medical supervision. The mortality of infants under a year increased in Paris from 1887 to 1891 to 299 per thousand. This rate diminished between 1901 and 1905 to 156 per thousand, that is to say, it decreased about 50 per cent. The same conditions are reported in other French cities having more than 30,000 inhabitants. In spite of this decrease infantile gastroenteritis every year carries off tens of thousands of children.

The Reorganization of the Hospitals

Though France has the incontestable credit of founding charitable institutions at a very early period, as is proved by the old hospitals such as the Hôpital-Dieu at Paris, that of Lyons, that of Rheims, etc., at present most of our hospital buildings do not meet the demands of modern medicine and surgery. Accordingly the municipality of Lyons has decided to construct a model hospital for 1,200 patients, which is to contain also all the clinics of the Lyons college of medicine. Before executing this work the municipality sent a mission to study the German and Danish hospitals. M. Edouard Herriot, mayor of Lyons and member of the superior council of public charities, who headed the mission, has just made public his impressions on this journey. He learned much in Germany and became convinced of the archaic character of the French hospital organization and of the necessity for its complete reform. M. Herriot insists particularly on the fact that scarcely any French hospitals have enough isolation rooms, so that it is not rare to see the delirium of dying patients disturbing the physical and moral repose of their companions.

It is important, moreover, that the construction of a modern hospital should not be left to the architect, whose main concern is for beauty of line. The Virchow Hospital at Berlin, where so much progress has been realized, has suffered from this defect. The principles of construction should have been laid down by the physicians and surgeons. If at Paris the old Cochin Hospital possesses to-day a perfectly organized surgical service it is because Professor Quénu was able to collaborate constantly in the construction of the building for this service, which he directs.

A Proposed Remedy for Depopulation

Dr. Lannelongue, a professor at the Paris college of medicine and a senator, has just laid before the bureau of the senate a bill directed against depopulation. Among the first causes of the evil Dr. Lannelongue mentions prolonged or perpetual celibacy, late marriage, the excessive tendency to seek official life, the lack of testamentary liberty, the precarious situation of the salaried official, rural emigration, etc. The slenderness of our birth-rate does not come, as one might believe, from purely physiologic causes. Statistics show that sterility has remained stationary; it amounted to 18 per cent. in 1856, and did not exceed 17 per cent. in 1891. If the birth-rate has diminished, it is not because the proportion of childless families has increased, but because the number of children in fecund families has diminished. The factors of weakness and of decadence against which it is necessary to strive for the conservation of the race and the future of the nation are the results of a more or less voluntary and deliberate limitation of the fertility of women which reduces the number of children to the minimum.

Dr. Lannelongue proposes a whole series of measures to combat depopulation. In the first place he proposes to lay supplementary military obligations from the age of 29 on celibates, who, since they do not fulfil the duty which they owe to the state of bringing children into the world, should have special obligations toward the national defense, from which married men and the fathers of families should be free. A proposition which will, no doubt, be considered audacious is that of requiring marriage of civil officials above the age of 25. Dr. Lannelongue, moreover, proposes certain pecuniary advantages during active service and at retirement for the benefit of civil employees who have not less than three living children. Finally, he proposes a modification of the civil code so as to give the father of a family absolute liberty in disposing of his patrimony, which will have the effect of dispelling the fear, too frequent among parents, of having to let their fortune be parceled out among a great number of children. The absolute right of testamentary disposition would, moreover, have the advantage of habituating young people to rely on their own intelligence and activities for their means of existence.

Election of Professor Roger to the Academy of Medicine

In its session of June 28 the Académie de Médecine elected a titular member in the section of pathologic anatomy in place of Dr. Malassez, who died last September. Dr. Henri Roger, professor of experimental pathology at the Paris college of medicine and physician of the Hôpital de la Charité, was elected.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 23, 1910.

Centennial of the Berlin University

The program for the celebration of the university centennial is now settled. October 10 at 6 p. m. divine service will be held in the cathedral, at 8 p. m. a reception at the university and, following that, a torchlight procession. October 11 the first celebration will take place in the new aula and at noon there will be a banquet; October 12 a second celebration in the new aula, in the afternoon a garden festival in the exposition park and in the evening a "Kommers" of the student body in the exposition hall of the zoologic garden.

Sanitary Reports on German Southwest Africa

The first report of the experiences collected in regard to the military sanitation in German Southwest Africa from 1904 to 1907, during the Herero and Hottentot campaign is at hand, prepared by the commander of our defense army. In this report there are included communications regarding the sanitary corps, the organization of the sanitary service, the sanitary equipment and the aid of the sick. Among about 21,000 soldiers employed in the protective service, the sanitary corps consisted of 922 men, of whom 187 were sanitary officers. There was one physician to 120 men. Of the entire sanitary corps 41, or 4.7 per cent., died. Of these 12 fell in battle (5 sanitary officers and 7 assistants). In the sanitary service on the field a field hospital was erected only in large undertakings. Even the erection of a division hospital was generally impracticable on account of the peculiar style of fighting which endangered particularly those carrying the wounded. Clothing with corduroy and khaki gave good service. The entire load of each foot soldier was about 52 pounds (26 kg). The food was often unsatisfactory. Many cases of scurvy necessitated the issue of chocolate, fruit juices, citric acid and condensed milk. Alcohol was often necessary on cold nights in the face of the enemy, while it was also evident that the effectiveness of the troops and their resistance to disease was not in the least diminished by involuntary abstinence from alcohol. Bathing was sometimes impossible for weeks on account of want of water. Clarification with alum and subsequent boiling sufficed for the purification of drinking water. Among the prisoners, a total of 15,000 Hereros and 9,000 Hottentots, infectious diseases were rife, especially dysentery, typhoid and syphilis (in the prison at Karibid 70 per cent. were syphilitic) and formed a constant danger to the troops. The care of the sick was the source of great difficulties; severely wounded patients with high fever had often to be transported on horses to which they were bound with thongs. It was necessary for the severely sick to remain often for days and weeks in ox carts.

Personal

Professor Krehl has unexpectedly declined the call to Leipsic as successor of Curschmann. It is confidently to be expected that at the next vacancy in a large university city (which may be Munich) Krehl will again be taken into consideration as the suitable successor.

Professor Döderlein of Munich has received a call for the position of Professor Olshausen. Döderlein was, as I have reported to you a few weeks ago, formerly on the appointment list of the faculty of the university of this city. It is doubtful whether he will accept the call; this depends on the action of the Munich authorities in providing the new building which he desires for his clinic. The Munich medical faculty has addressed a petition to the ministry to this effect and also the students made a visit to the department asking that Döderlein be retained in the university. It is to be expected that the Bavarian government will accept the ultimatum of Döderlein, and that the latter will remain in Munich. In that case the Prussian government will probably call Professor Hofmeier of Würzburg whom the faculty of the Berlin university nominated to the first place after the refusal of Krönig. As successor of the recently deceased Professor Zuckerkandl of Vienna, Professor Rabl of Leipsic was chosen, but declined.

Meeting of Tuberculosis Physicians in Carlsruhe

Early in June the seventh convention of the German tuberculosis physicians occurred at Carlsruhe and the proceedings were interesting with reference to the diagnosis, prophylaxis, and treatment of tuberculosis. Professor Feer, director of the Heidelberg pediatric clinic, reported his experience with the cutaneous and ocular tuberculin test; 2,000 children in his clinic were submitted to the von Pirquet test, in 86.7 per cent. of whom there was no suspicion of tuberculosis, in 4.8 per cent. there was suspicion, and 8.5 per cent. were clinically evidently tuberculous. In the first six months of life, 1.7 per cent. reacted positively, in the second six months, 7.3 per cent. Of 1,732 non-suspects none reacted positively up to six months of age: from six to twelve months, 3.4 per cent.; 1 to 2 years, 6 per cent.; 2 to 3 years, 11 per cent.; 3 to 5 years, 17 per cent.; 5 to 7 years, 22 per cent.; 7 to 10 years, 29 per cent.; 10 to 15 years, 38 per cent. According to Feer, the Pirquet test is specific, but with a very irritable skin the reaction may be simulated. In many cases of inactive tuberculosis, especially in children over 5 years of age, the reaction was positive at the second trial. Active tuberculosis very seldom gives a negative result with the cutaneous test. Feer never observed injurious effects. The positive result loses its value after the third to fourth year of life as it often occurs in the inactive form. On the other hand, the negative result is very significant. The ocular test was applied in 271 cases, only a single instillation of a drop of 1 per cent. of old tuberculin being made. Of 253 clinically tuberculous women a positive reaction was found in 22 per cent. of the 92 who showed a positive result by the Pirquet test. In 5 of the 101 positive ocular reactions severe conjunctivitis was observed. Dr. Roepke of Melsungen recommends an ambulant tuberculin treatment for patients after the usually too short sanatorium treatment. In his opinion the tuberculin preparations afford the only specifically active remedies. He recommends the gradually progressive method avoiding reactions as far as possible. In this way the occupation is as a rule not disturbed. Dr. Koppert in the sanatorium treatment favors rest and protection for the patients at first, especially by treatment in recumbency, but later he introduces systematic exercises for the increase of the resisting power and self-confidence of the patient. By confinement to bed a weakening of the entire musculature of the body is easily produced: this inconvenience is mitigated or removed by walking exercises, systematic muscular work, etc. The period of employment must not exceed 2 to 4 hours daily. Dr. Junker also recommends a systematic employment in the popular sanatoria, especially by garden work and agricultural labor and by housework for women. Professor Starck (Carlsruhe) treated the subject of tuberculosis and pregnancy. Among about 65,000 pregnant women 1.6 per cent. were found tuberculous. Here, however, only severe cases appear to have attracted attention and the mild cases presented no striking symptoms, so that it may be concluded that very light cases are little influenced by pregnancy. He found in his material that about one-fourth of all the cases of tuberculous pregnant women first showed evident symptoms during pregnancy. Severe forms become aggravated in the course of a pregnancy without exception, but mild forms often bear it remarkably well, although the prognosis must always be uncertain. Pulmonary tuberculosis complicated by laryngeal tuberculosis during pregnancy render the prognosis still more unfavorable. As to the influence of tuberculosis on the pregnancy, it appears that in general abortions are not more common than among non-tuberculous women. Premature birth occurs, however, oftener in cases of severe tuberculosis. The influence of the mother's tuberculosis on the fetus may be exerted in three ways, by intrauterine infection (which is very rare), by the weakened constitution of the prematurely born child, and by the inherited predisposition. The therapy of tuberculous pregnancy is essentially prophylactic. Tuberculous girls must be warned against marriage. After recovery from tuberculosis permission to marry must be granted only after the expiration of from two to three years. When tuberculosis occurs in a married woman, conception must be prevented if possible. Starck does not advise the induction of premature labor in a tuberculous pregnant woman, because he considers it as injurious for the tuberculous patient as delivery at full term. On the other hand, the earliest possible abortion has a favorable influence on the course of the tuberculosis. The complication with laryngeal tuberculosis is an unconditional indication for abortion in the first few months.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, June 23, 1910.

The Tuberculous Patient and the Austrian Law

The increasing vigilance with which the public is watching the spread and prevention of tuberculosis has caused a physician to compile the present regulations of the Austrian law, in regard to tuberculosis. The law justifies the breaking of an engagement of marriage by either party if the other is found out to suffer from active tuberculosis. If, however, tuberculosis becomes manifest or recognized only after the wedding the marriage is valid. On the principle that damages can be claimed from the party responsible for the loss, landlords are entitled to have the flat from which a tuberculous patient has moved disinfected at the expense of the patient. Public spitting may be, and has been prohibited, and a fine, sometimes very high, may be imposed if the law is transgressed. Private corporations have sometimes obtained damages on this ground. Children suffering from tuberculosis are not allowed to visit public schools, except for examinations. A movement is now on foot to establish special classes for tuberculous children, in spite of medical remonstrations against the necessity of keeping such children in school at all. A tuberculous teacher is strictly forbidden to continue his occupation. A tuberculous prisoner may claim postponement of his term of imprisonment, and a recruit is entitled to a leave of one to three years, or, if after his twenty-fourth year, he still is suffering from demonstrable illness, he has to be dismissed. Interesting disputes under the claim of workmen's compensation have been brought to the courts when laborers have contracted the disease while engaged in certain kinds of work under conditions favorable to infection. As a rule, the attitude of the courts of law is not very favorable in this respect to the employed persons. The attempt has been made, but as yet unsuccessfully, to make tuberculosis a notifiable disease, according to the terms of the public health bill now under consideration, and to provide that in order to obtain the marriage license, both parties shall produce a certificate of health, especially of freedom from tuberculosis. This summary of legal provisions bearing on disease is, of course, not exhaustive, but only those that are most likely to occur in every-day life.

MANILA LETTER

(From Our Regular Correspondent)

Manila, May 31, 1910.

Infant Mortality

Widespread interest is shown in Manila in the present campaign against the existing high mortality among infants and children. It is not uncommon to notice in the daily health reports of Manila such statistics as these: Total deaths for the day 25, infants 18, or total deaths 15, infants 11. The chief cause of this high death rate is universally considered to be improper environment, care and feeding. Both Filipino and American physicians are actively engaged in combating such a disproportionate mortality of babies. Among the Filipino physicians Dr. Calderon, recent delegate to the International Congress of Tuberculosis at Washington, is the most actively engaged in this work. The Bureau of Health and the Manila Medical Society are also lending their aid. Appeals are frequently made through the daily press and the public are quite well aware of the condition of affairs. This, however, is of no particular significance to the vast majority of Filipinos, who are quite accustomed to it. In fact in the old days before American sanitation was established the death-rate among the babies was, if we can trust the meager statistics available and the memory of the oldest residents, even much greater than it is to-day. Most of the burden of this work naturally falls on the Americans and the few more intelligent Filipinos; since, for reasons stated above, the great mass of the population can hardly be expected to aid, and the foreign residents (English, German and Spanish) who remain more or less segregated and who as a rule have no interest in the welfare of the islands except in a commercial sense, have not proved very charitable.

If the vital statistics of the Bureau of Health of the Philippine Islands be studied it will be seen that, but for the great mortality of infants and children, the health of Manila will compare favorably with that of any American city of like size. There are fewer deaths from pneumonia, diabetes, typhoid and heart disease than is the rule in American cities of 250,000 inhabitants. The sanitary conditions are excellent. Pure water is to be had at a slight cost and the climatic conditions are never excessive. In view of these conditions the medical profession of Manila has set itself to the task of looking into the conditions obtaining in the home of the average Filipino mother and to ascertain the cause for such a high death-rate among the babies.

Accordingly the American Association for Study and Prevention of Infant Mortality was organized and held its first meeting last November. At the close of the four days' session resolutions were adopted stating that the present high rate of infant mortality is due to inherent debility or disease, improper environment and care, improper feeding and communicable diseases, and is to a high degree preventable; that the breast feeding of infants is, when possible, the only proper method; that the reporting of all communicable diseases, especially of those commonest in society, to health boards, should be compulsory; and that the scientific instruction of the young in practical hygiene and sanitation, and of mothers in the care and rearing of infants is an important duty resting chiefly on physicians, sociologists, school authorities and boards of health. The Bureau of Health and prominent native physicians and many Americans have been making efforts to supply proper nourishment in the homes of the classes through the Gota de Leche, an organization which is taking charge of most of the charities for the relief of the babies.

Inspection of Meats

The Bureau of Health and the Bureau of Agriculture have recently joined forces in instituting a rigid inspection of all meats entering Manila from a foreign country. The two bureaus are to cooperate in this inspection and the Bureau of Science has offered to analyze any suspicious specimens sent to it by the meat inspectors. Live animals shipped into the islands for food are also subjected to a rigid inspection before being allowed to land and are held in quarantine on the least provocation. Thus by a system of double inspection, one abroad and one before landing, sound meat is practically assured the people of Manila.

Meeting of Far Eastern Association of Tropical Medicine

The first biennial meeting of the Far Eastern Association of Tropical Medicine was held at Manila, P. I., the first week in April. [As noted in The Journal, May 18.—Ed.] The congress was attended by seventy six medical men engaged in professional work in the far east, including the official delegates from the governments of India, Ceylon, Siam, Netherlands, India, the Federated Malay States, the Straits Settlements, Hongkong, the Philippine Islands, Tsingtau and Japan. There were eight scientific meetings. With the exception of the final meeting, which was held at Babuio, the new summer capital of the islands, all the meetings of the congress were held in the administration building of the new General Hospital of Manila.

The general run of the papers was good and most of them were of a high standard.

Among those of more than a local or more than a tropical interest may be mentioned one by Dr. S. Purdy of Auckland, New Zealand, on "Flies and Fleas as Factors in the Dissemination of Disease." From his experience in India and Egypt he is led to place particular emphasis on the danger of flies, especially in disseminating cholera and typhoid fever. He spoke favorably of the effects of petroleum in killing flies in the larval stage.

In connection with the subject of the notification of diseases in Manila a valuable paper was read by Dr. Maclachlan of the Bureau of Health and Dr. Andrews of the Bureau of Science, entitled "Studies in Infantile Mortality." It was a record of a verification of the causes of death as registered at the ordinary registry offices. The deaths of ninety-two infants under one year of age were verified, as to the cause of death, by post-mortem examination. It was found that out of the ninety-two cases, taken at random, 47 per cent. were due to infantile beriberi. Despite any doubt as to the validity of the diagnosis in any of these cases, it would still seem evident from the statistics furnished that the greater portion of the deaths of infants in Manila, as in most of the cities of Siam, India, Japan, etc., is due to digestive troubles arising from improper feeding. It was further shown that the deaths of children under 1 year in the Philippines amounts to 48.8 per cent. of the total deaths recorded.

The largest attendance occurred on Friday, when the subject of beriberi was brought up for discussion. This is a topic of widespread medical interest in the far East, especially in the tropics. Papers were read on "The Cause of Beriberi," by Dr. J. de Haan, delegate from Netherlands, India, and Dr. H. Fraser, delegate from the Federated Malay States; on "Beriberi in Siam," by Dr. Highet, delegate from the Government of Siam; on "Food and Metabolism in Beriberi," by Dr. Hans Aron; and on "The Etiology of Beriberi," by Dr. E. Musgrave of the Bureau of Science. An interesting point about these papers is that from each of those districts evidence was brought forward to show that beriberi is closely associated with the continuous consumption of white polished rice as the staple article of diet. In reviewing past work on beriberi, Dr. de Haan showed that the idea of this disease being caused by a bacterium is untenable, that it is a food disease, and that in Netherlands, India, it had been found that it could be kept very much in abeyance by adding to the white rice diet a form of green pea which is called "*Katchang idj-ju.*" The indications are that unpolished rice or rice milled by the native crude method does not give rise to beriberi. The explanation is, that in polishing rice the outermost layer of cells, which contain most of the fat and phosphorus, is polished off and it is the lack of these constituents which gives rise to beriberi.

At the concluding meeting of the association, Dr. Clark, who is the Medical Officer of Health of Hongkong, extended a cordial invitation from the government of Hongkong to the Far Eastern Association of Tropical Medicine to meet there in 1912. The invitation was endorsed not only by the government but also by the British colonial office. The association accepted the invitation with acclamation. Dr. Atkinson of Hongkong was elected president. The following vice-presidents were elected: Sir A. Perry (Colombo), Dr. de Haan (Netherlands, India), Dr. Ellis (Straits Settlements), Dr. Highet (Siam), and Dr. Shibayama (Japan).

Miscellany

Cardiac and Respiratory Failure Associated with Engorgement of the Thyroid.—In a discussion on lymphatism (*Proc. Roy. Soc. Med.*, March, 1910) Mr. Carter Braine reported a case of cardiac and respiratory failure, during an operation for the removal of an abdominal tumor. The failure seemed to be due to an engorgement of the thyroid gland, which previous to the operation had seemed to be normal. The patient was an emaciated woman, aged 24, extremely nervous and with a rapid pulse. Ethyl chlorid followed by ether was used. The patient was placed in the Trendelenburg position and the abdomen opened. The operator requested that the patient be relaxed a little further on account of rigidity of the recti; at this time the pupils were dilated and a light-reflex was present. On pushing the anesthesia a little further the pulse became feeble, the pupils were still very large and a doubtful corneal reflex was present. There had been no traction on the abdominal contents. Respirations became very shallow; the anesthetic was stopped and chest compressions employed to assist respiration. Breathing ceased, however. There had been no cyanosis, no stertor; the color was ash-grey and the pulse imperceptible at the wrist. Artificial respiration and oxygen were employed and persevered in, although the patient was considered by all present to be dead. The tongue was well forward and had given no trouble. It was then noticed that the thyroid was swollen, the two lateral lobes and the isthmus being well-marked. The anesthetist was absolutely certain that this swelling was not present before the anesthetic was commenced. The patient had been removed to the floor to facilitate the employment of artificial respiration. Believing that the inability to restore the respiration might be due to the swelling of the gland the head was raised from the floor and slightly flexed on the sternum and artificial respiration continued in this position. In a few minutes the pupils commenced to contract, a thready pulse returned, and respiration became reestablished. Strychnin was given, the patient placed on the table and the operation completed under light anesthesia with the patient in the horizontal position. The patient was returned to her bed with color and pulse good and no trace of the swelling of the thyroid could be discovered. Though perhaps rare, this possibility should be kept in mind in respiratory and cardiac failure during anesthesia, and it should be borne in mind that in status lymphaticus the thymus might also become engorged, giving rise to reflex cardiac inhibition or respiratory stasis.

Variation in the Inherent Phagocytic Power of Leucocytes.—The opsonic index, according to E. E. Glynn and G. L. Cox (*Jour. Path. and Bacteriol.*, 1909, xiv, 90), as determined by the Wright technic, does not necessarily represent the true index of the power of phagocytic response of the blood of any given individual. In determining the opsonic index of a given patient's blood, Wright and his school do not take into account the possibility that there may be differences in the phagocytic power of various strains of leucocytes, as well as in the different types of leucocytes themselves. Wright himself said, "It clearly emerges that the phagocytic count is uninfluenced by the corpuscle employed. . . . It will make it clear that we may take the opsonic index of any blood as an index of the patient's power of phagocytic response." From their observations on human beings, Glynn and Cox are led to take exceptions to this doctrine. They find that both serum and leucocytes are subject to change, so that both must be taken into consideration in estimating the extent of phagocytosis of a given blood. They claim to have shown that "there may be a marked and often very constant difference in the phagocytic capacity of various strains of polymorphonuclear leucocytes. These differences may be apparent not only in pathologic blood, but also in normal blood. The opsonic index does not necessarily coincide with the index obtained by mixing a person's own leucocytes with his own serum. The extent of the phagocytosis obtained when washed leucocytes and serum from the same individual are incubated together can be correctly estimated by separately measuring the proportions due to the serum and washed leucocytes respectively. The inherent phagocytic power of the leucocytes of different individuals towards bacteria may tend to be constantly below a given standard, not only in disease but to a lesser extent in health. The phagocytic power of different leucocytes is subject to variations in the same individual which are at least as marked as those in the amount of opsonin (in undiluted serum), but there is no evidence that the variations are specific in the uninfected."

Mission Hospital Patients in Turkey.—Dr. C. D. Ussher, a medical missionary in Van, Turkey, writes that people in America would undoubtedly flee the dispensary connected with his hospital if they should see the patients. He says: "Picture them brought in among the crowd; smallpox cases in every stage, papules, vesicles, pustules and scabs; famine, scarlet fever, diphtheria, measles and whooping-cough. If you talk to the friends about microbes and infection, many either look at you nonplussed or assure you that there are no microbes on them, they had a bath a month or two ago or 'last Easter.' Those whose friends are able to care for them properly are sent home and those most needy are sent to the hospital if there is room for them. Yes, smallpox, scarlet fever, typhus, typhoid, and all are sent to our one and only hospital, and it takes much labor and expense in washing, bathing and disinfecting to prevent infection of others." The hospital is a three-story building, 50 by 70 feet, with four general wards and nine private wards, one of which with two beds is used for contagious diseases when cases are few.

Cradling in Treatment of Strangulated Hernia.—In a communication in the *Progrès Médical*, March 19, 1910, M. de la Roquette refers to a case recently reported in which strangulated eventration became spontaneously reduced as the patient's head was kept constantly lower than the pelvis. He then reports a case from his own experience in which an irreducible strangulated hernia gave rise to such threatening symptoms that the patient was taken at once to the nearest hospital, but this was miles away and the patient had to be carried down in the native (Chinese) litter which is suspended at the head and foot from the center of a crossbar borne on the shoulders of two men. The continuous swaying resulted in the spontaneous reduction of the hernia in this case, and he suggests that some such cradling device might be systematically applied in treatment of strangulated hernia.

Aneurism of the Vertebral Artery and Celiac Axis.—A man, aged 57, had complained of neuralgic headache at intervals for six years (Longcope: *Proc. Path. Soc., Philadelphia*, February, 1910). Six days before admission to hospital the pain became worse and the patient fell unconscious, remaining so for thirty minutes. When he recovered consciousness his right foot was paralyzed, and on admission to the hospital he had fever, retraction of the head, paralysis of the right foot and delirium. Six lumbar punctures were performed and pure blood was obtained each time. The patient died of pneumonia. Autopsy revealed a ruptured aneurism of the vertebral artery. In the celiac axis there was a nodule which was thought to be a thrombus, but which when dissected away was found to be a true dissecting aneurism.

Marriages

Edward Patera, M.D., to Miss Jane Smyth, both of Chicago, July 2.

Joseph Isaac Kemler, M.D., to Miss Rebecca Macht, at Baltimore, June 29.

J. Page Strong, M.D., to Miss Camilla Lucille Gordon, at Baltimore, June 29.

William Harris, M.D., to Miss Julia L. Shrotz, both of Philadelphia, June 28.

John A. C. Tull, M.D., Atlantic City, N. J., to Miss Lyons at Guelph, Canada, recently.

Walter F. Nuzum, M.D., Spokane, Wash., to Miss Martha Kilian of Baraboo, Wis., June 23.

Thomas G. McLin, M.D., to Miss Nena E. Inskeep, both of Fairfield, Ill., at Chicago, June 24.

Franklin Harold Crail, M.D., East Las Vegas, N. M., to Miss Laura Hallock of Denver, June 28.

Luther Gould Dearborn, Jr., M.D., Derry, N. H., to Miss Luella Fitch of Cambridge, Mass., June 8.

Moses P. Rucker, M.D., Bedford City, Va., to Miss Mary P. Williams of Fredericksburg, Va., June 27.

William Richard Arthur, M.D., Greene, Iowa, to Miss Hazel Claire Loomis of Des Moines, June 30.

Kuno Herbert Struck, M.D., Davenport, Iowa, to Miss Norma Little Petersen of Iowa City, June 23.

Farquhard Campbell, M.D., to Miss Maude Barbour, both of Kansas City, Kan., at Leavenworth, Kan., June 25.

Jesse Newton Hill, M.D., Osawatomie, Kan., to Miss Minnie Grace Kinman of Pleasant Hill, Mo., June 23.

George M. Jennings, M.D., Missoula, Mont., to Miss Sabra Swenson of New London, Minn., in Minneapolis, June 8.

William Henry Donovan, M.D., Iowa City, Iowa, to Miss Josephine M. Barry of Monticello, Iowa, at Iowa City, June 22.

Deaths

Henry Harris Aubrey Beach, M.D. Harvard Medical School, Boston, 1868; a member of the Massachusetts Medical Society; Boston Society for Medical Science, the Society for Medical Improvement, and the Society for Medical Observation; formerly demonstrator of anatomy and instructor and lecturer on surgery in Harvard Medical School; for two years associate editor of the Boston Medical and Surgical Journal; died at his home, June 28, aged 66.

Clement Bloch, M.D. University of Koenigsberg, Germany, 1890; a member of the German Medical Society; for five years head physician of the Montefiore Home; visiting physician to the Polyclinic Hospital and Mount Sinai Hospital, and physician to Sydenham Hospital, New York City; died at his home in that city, July 3, from heart disease, aged 46.

Charles Zellhoefer, M.D. New York University Medical College, New York City, 1873; a member of the Medical Society of the State of New York; consulting physician to the German, Eastern District and St. Catharine's Hospitals, Brooklyn; died at his home, June 30, from heart disease, aged 65.

George Glick, M.D. Eclectic Medical Institute, Cincinnati, Ohio, 1849; for many years president of the First National Bank, ex-postmaster, member of the city council and school board of Marshalltown, Iowa; died at the home of his daughter in Chicago, June 26, from paresis, aged 83.

Edward Jerome Page, M.D. Louisville (Ky.) Medical College, 1874; Jefferson Medical College, 1883; a member of the Oregon State Medical Association, and the Southern Oregon Medical Association; president of the Commercial Bank of Oakland; died at his home in that city, July 1, aged 60.

Alfred Willard Southgate, M.D. Harvard Medical School, Boston, 1905; a member of the Massachusetts Medical Society; a member of the staff, and for two years house surgeon of the City Hospital, Worcester; died in that institution, June 25, from tuberculosis, aged 31.

Charles B. Richmond, M.D. Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association; for thirty years a resident of Colorado and twenty-one years a practitioner of Denver; died at his home in that city, July 1, aged 56.

Simon B. Beer, M.D. Eclectic Medical Institute, Cincinnati, Ohio, 1874; of Fairview, Ill.; served in the One Hundred and Third and Thirty-sixth Illinois Infantry throughout the Civil War; died in a hospital in Peoria, June 23, following an operation, aged 72.

James Robertson Ely, M.D. University of Louisville (Ky.) Medical Department, 1859; a member of the Kentucky State Medical Association; formerly of Frankfort, Ky.; died at the home of his son-in-law in Tryon, N. C., June 19, from sepsis, aged 74.

Daniel A. Sheffield, M.D. Northwestern University Medical School, Chicago, 1867; Rush Medical College, Chicago, 1886; formerly of Apple River, Ill.; died at the home of his daughter in Lamont, Iowa, June 25, aged about 80.

Joseph F. Koerper, M.D. Philadelphia College of Medicine and Surgery, 1852; a member of the Medical Society of the State of Pennsylvania; died at his home in Philadelphia, March 18, from senile debility, aged 79.

Joseph Hark, M.D. Franklin Medical College, Philadelphia, 1848; a retired practitioner of Bethlehem, Pa.; died at the home of his grandson in Bethlehem, June 18, from fatty degeneration of the heart, aged 91.

Addison Norvel Nuckols, M.D. Medical College of Virginia, Richmond, 1870; a Confederate veteran; a resident of Danville, Va., until two years ago; died at his home in Lynchburg, June 9, from apoplexy, aged 66.

Robert Edward Emmett Burke, M.D. University of Louisville (Ky.) Medical Department, 1905; formerly intern at the City Hospital, Louisville, Ky.; died at his home in that city, June 28, from tonsilitis, aged 26.

Edwin Drake Van Deventer, M.D. Missouri Medical College, St. Louis, 1881; a member of the Missouri State Medical Association; of Laddonia, Mo.; was struck and killed by a Chicago & Alton train, July 4, aged 51.

John Philip Harrell, M.D. Keokuk (Iowa) Medical College, 1892; a member of the Iowa State Medical Society; formerly city physician of Burlington, Iowa; died at Mercy Hospital in that city, June 28, aged 42.

William Lobdell Johnson, M.D. Albany (N. Y.) Medical College, 1865; a member of the Medical Society of the State of New York; died at his home in Johnstown, June 26, from chronic gastritis, aged 66.

Charles DeWitt Early, M.D. Rush Medical College, Chicago, 1901; formerly county physician at Peoria County, Illinois; died suddenly while seated in a chair at the Elks' Club, Peoria, July 5, aged 32.

Walter William Snyder, M.D. Starling Medical College, Columbus, Ohio, 1901; a member of the Ohio State Medical Association; was found dead at his home in London, Ohio, June 26, aged 34.

Clarence Roberts Campbell, M.D. College of Physicians and Surgeons, Baltimore, 1906; of New Bedford, Mass.; died at the home of his brother in Provincetown, Mass., June 19, from pneumonia.

Donald Alex. McDonald, M.D. University of Michigan, Department of Medicine and Surgery, 1876; of Detroit, Mich.; died in Rochester, Minn., May 29, from gastric ulcer, aged 50.

Charles L. Sonnemann, M.D. Northwestern University Medical School, Chicago, 1894; of Milwaukee, Wis.; died at the home of his brother-in-law, June 23, of nephritis, aged 41.

Richard Joseph Nunn, M.D. Savannah (Ga.) Medical College, 1854; a member of the Medical Association of Georgia; a Confederate veteran; died at Savannah, Ga., June 30, aged 79.

Frank B. Dodge, M.D. College of Physicians and Surgeons, Baltimore, 1880; a resident of Mount Morris, N. Y., for twenty-eight years; died at Fresno, Cal., June 22, aged 70.

Benjamin Franklin Daniel, M.D. Atlanta (Ga.) Medical College, 1887; formerly of Union Point, Ga.; died at his home in Decatur, Ga., June 27, from tuberculosis, aged 60.

John Waters Deshon, M.D. Bellevue Hospital Medical College, New York City, 1891; formerly of Little Rock, Ark.; died at Tulsa, Okla., July 3, from heart disease, aged 57.

John Whitehead Seidell, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1907; died at his home in Nichols, Fla., June 16, from typhoid fever, aged 28.

David Findley (license, Iowa, 1886); a practitioner of Cass County, Iowa, for forty-seven years; died at his home in Atlantic, June 28, from senility, aged 80.

Oliver H. Caldwell, M.D. Memphis (Tenn.) Hospital Medical College, 1882; a veteran of the Civil War; died at his home in West Paris, Texas, June 28, aged 78.

Thomas M. Young, M.D. Chicago Homeopathic Medical College, 1880; a veteran of the Civil War; died at his home in Seattle, Wash., July 1, aged 68.

John B. Heck, M.D. Louisville (Ky.) Medical College, 1874; formerly postmaster of Dayton, N. M.; died at his home in that place, recently, aged 60.

Sebastian Cabot Lewis, a resident of Kerens, Texas, for twenty-two years; died at that place, June 21, from senile debility, aged 91.

Samuel H. Decker (license, Pa., 1891); formerly of Benezett, Pa.; died at his home in Kersey, Pa., April 7, from pneumonia, aged about 65.

Elizabeth Short, M.D. Woman's Medical College, Kansas City, Mo., 1898; died at her home in Kansas City, July 1, aged 44.

Sylvanus F. Heath, M.D. Harvard Medical School, Boston, 1866; died at his home in Gilman, Ill.; June 16, aged 71.

Pharmacology

QUININ ARSENATE REFUSED RECOGNITION

Report of the Council on Pharmacy and Chemistry

The advisability of admitting quinin arsenate as a non-proprietary article to New and Nonofficial Remedies was taken up for consideration by the Council and the product was referred to a committee on chemistry. This committee recommended that the opinion of the staff of clinical consultants should be obtained relative to the value of this product. This was done and on the staff's recommendation the drug was refused recognition and the Council ordered the following statements to be published.

W. A. Puckner, Secretary.

Quinin arsenate is the secondary quinin salt of arsenic acid. It contains 8 per cent. of elementary arsenic and 69 per cent. of anhydrous quinin. 0.1 gm. (1½ grains) would be equivalent to approximately .092 gm. (1 9/20 grains) of quinin sulphate and to 0.032 gm. (½ grain) of sodium arsenate (five times the official dose). It is thus seen that the proportions of the two chief ingredients in the salt are such that an efficient dose of quinin cannot be given in this form without introducing a dangerous amount of arsenic. As it does not appear that this preparation possesses any properties that might not be found in a mixture of quinin salts and various preparations of arsenic, and as it has no advantage over other forms of arsenic now available there is no reason for including it among unofficial non-proprietary remedies. Attempts to substitute it for other quinin salts would be likely to lead to overdosing with arsenic.

THE DEADLY HEADACHE POWDER

Two Widely Advertised Nostrums Add to Their Mortuary Lists

Yet another death is recorded from the use of the deadly "headache powder." According to the reports, Mrs. Lena Shepland, Hastings, Neb., having a headache, took a dose of bromo-seltzer; this not giving the desired relief, she also took a dose of antikamnia. An hour later she was dead from heart failure induced by these heart-depressing nostrums.

The *Hastings Daily Tribune* in reporting this case demonstrates the change that the daily press has undergone in the past five years. Not only do the names of the nostrums appear in the report but also in large type in the heading. This seems to show that the Proprietary Association of America is losing its grip on the press. Five years ago it would have been hard to find a paper that would have dared to give a nostrum such unenviable notoriety as this Nebraska paper forces on bromo-seltzer and antikamnia.

RADAM'S MICROBE KILLER

A correspondent asks for information concerning "Radam's Microbe Killer," as he has a patient with cancer whose family are strongly urging the use of this nostrum.

"Radam's Microbe Killer" was shown up by Mr. Adams in his "Great American Fraud" series and also in the report of the Australia Royal Commission. This nostrum had a great vogue some years ago and then seemed to drop out of notice; apparently, however, it has been revived recently and is being pushed vigorously, especially in New York City and on the Pacific coast. A few months ago the federal government seized a consignment of this preparation (see The Journal, May 14, 1910) and served notice on the firm in whose possession it was found. The court decided that the product should be destroyed and that the firm in question shall pay all the costs of the proceedings. The "Notice of Judgment" published by the government did not give in detail the results of the government analysis, but application to the Department of Agriculture regarding the composition of this nostrum brought the following letter:

"The acting secretary has officially authorized giving you the information relative to the composition of 'Radam's Microbe Killer.' The results are as follows:

"Sulphuric acid	0.59 per cent.
"Sulphurous acid	0.016 per cent.
"Inorganic matter (ash)	0.013 per cent.
"Water by difference	99.381 per cent.

"The above clearly shows that 'Radam's Microbe Killer' is a mixture of sulphuric acid and sulphurous acid dissolved in ordinary hydrant water. It is quite possible that the sulphuric acid may have been present in part as sulphurous acid."

A REDISCOVERY

Fifteen years ago The Journal ceased to carry the advertisement of antikamnia; ten years ago it called attention to the fact that this nostrum was being advertised to the laity by means of circular letters; since that time it has persistently exposed the devious ways in which the exploiters of this dangerous powder have humbugged the medical profession and the public. Some other medical journals, notably the *Medical World*, have enlightened their readers on the same subject. It can hardly be said, therefore, that the medical profession was unaware of the "heads I win, tails you lose" policy of the Antikamnia Chemical Company.

Apparently, however, our friends the druggists, were unaware of the machinations of the Antikamnia people. This, at least, is what we are led to believe by a letter which has recently been sent to physicians by the committee on the U. S. P. and N. F. propaganda of the Chicago branch of the National Association of Retail Druggists. With its own letters calling attention to the way in which physicians have been made the catspaw of the proprietary interests, this committee sends a facsimile letter of the "Do-you-suffer-pain?" letter which the Antikamnia people have been scattering among the laity for years.

This change in attitude on the part of the N. A. R. D. is encouraging. It is less than five years ago that the Antikamnia Chemical Company sent "as a Thanksgiving Offering to the National Association of Retail Druggists, our check for the sum of five hundred ($500.00) dollars." This money the N. A. R. D. gratefully received and acknowledged with the statement that the Antikamnia Company deserved great credit for realizing "that the retail druggist is, after all, the best friend of the proprietary manufacturer." And at the time this "honorarium" was accepted by the N. A. R. D. these same "Do-you-ever-suffer-pain?" letters had been going to the public for over five years. Reforms come slowly, however, and it is sufficient to be thankful for them when they arrive. The medical profession should appreciate the present attitude of the N. A. R. D. toward at least one of the "ethical" nostrums even though that attitude is brought to their attention in the form of a discovery at least a decade old.

Correspondence

Treatment of Burns; Correction of a Prescription

To the Editor:—In my paper on "Rational Treatment of Burns" (The Journal A. M. A., July 2, p. 27), an error [Our error.—Ed.] exists in regard to the strength of the picric acid solution. The prescription as used by me and given in my manuscripts is as follows:

	gm. or c.c.	
Picric acid	4	ʒj
Alcohol	64	℥ ji
Water q. s.	768	O jss

Please make this correction in The Journal, as serious results might follow the use of a picric acid solution as strong as the one erroneously printed in my paper of the above date.

H. L. Fancher, M.D., Chattanooga, Tenn.

Bismuth Subnitrate Superior to Bismuth Milks

To the Editor:—There are a number of bismuth preparations on the market put out by manufacturing chemists in the shape of *bismuth creams, milks, etc.*, purporting to have the same field of usefulness in gastrointestinal disorders as bismuth subnitrate. I believe these preparations are made from the oxid and while, from a pharmaceutical standpoint, they seem to leave nothing to be desired, clinically, I am convinced, they are well nigh worthless, at least in infants.

In a series of observations covering their administration to twenty-one infants suffering from acute gastroenteric conditions, I failed to observe a sedative or astringent action in a single case. In 21 cases I gave four ounces of a well-known bismuth milk in thirty-six hours to infants suffering from gastroenteritis, with frequent stools containing some blood and abundant mucus, without the slightest appreciable effect in the character or frequency of the stools notwithstanding the fact that milk feeding was entirely withheld during this treatment for a period of seven days. The bismuth milk passed through the entire alimentary tract practically unchanged and appeared in the stools as a white semi-solid mass. Bismuth subnitrate was now administered in 10 gr. doses every two hours resulting in darkened stools, lessened amount of blood and almost complete disappearance of mucus within the first twenty-four hours of its administration.

Judson A. Hulse, M.D., Akron, Ohio.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 9, 1910:

Slater, E. F., M. R. C., granted 12 days' leave of absence about Aug. 15, 1910.

Fisk, Owen C., M. R. C., ordered from Fort Crook to Fort Omaha, Neb., for temporary duty.

Roberts, William M., major, left Fort Thomas, Ky., en route to Camp at Gettysburg, Pa.

Gosman, George H. R., major, reported for duty at Chickamauga Park, Ga.

Smith, Allen M., major, left Washington, D. C., *on 30 days' leave* of absence.

Hammond, William G., dental surgeon, relieved from duty in the Philippines Division and directed to sail on transport to sail from Manila, P. I., about *Sept. 15, 1910, to San Francisco.* Dental Surgeon Hammond will proceed thence to his home and on expiration of the leave of absence granted him this date will report to the Surgeon General of the Army for annulment of contract. Leave *of absence for 3 months, to take effect* on arrival in the United States, is granted.

Mills, Frederick H., M. R. C., granted 4 months' leave of absence about Sept. 15, 1910.

Gray, William W., col., leave of absence extended 1 month.

Harris, Herbert I., M. R. C., granted leave of absence for 1 month and 15 days.

Register, Edward C., M. R. C., assigned to permanent duty at Fort H. G. Wright, N. Y.

Adams, Paul A., M. R. C., died at Scofield Barracks, H. Ty., July 3, 1910.

Baker, David, major; Darby, Taylor E., lieut.; Northington, E. G., M. R. C., report arrival at Chickamauga Park, Ga.

Kramer, Floyd, lieut., left Fort Robinson, Neb., en route to Fort D. A. Russell Target and Maneuver Reservation, Wyo., for duty.

Brown, Henry L., capt., reported for duty at Chickamauga Park, Ga.

Griswold, W. C.; Meterick, R. H., M. R. C., left Fort Oglethorpe, Ga., en route to Camp of Instruction, Chickamauga Park, Ga.

Gunckel, George I., dental surgeon, en route to Fort McPherson, Ga., from temporary duty at Fort Screven, Ga.

Mount, J. R., lieut., *reported for duty* at Camp Dickinson, Chicago.

Brooks, William H., major, ordered to Columbus Barracks, Ohio, *for temporary duty. Major Brooks to be relieved from duty at* Presidio, San Francisco on completion of *temporary duty* at Columbus Barracks, Ohio, and will then proceed to Recruit Depot, Fort McDowell, Cal., for duty, relieving Lieutenant Colonel Euclid B. Frick, Medical Corps.

Frick, Euclid B., lieut. col., on being relieved from duty at Fort McDowell, Cal., will proceed to and take station at the Presidio of San Francisco.

Medical Corps, U. S. Navy

Changes for the week ended July 2, 1910:

Sellers, F. E., P. A. surgeon, detached from duty at the Naval Station and Naval Recruiting Station, New Orleans, and *ordered* to the Naval Station, Guam, M. I.

Dunn, H. A., P. A. surgeon, ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Stepp, J., P. A. surgeon, ordered to the *Wabash*.

Wheeler, L. H., P. A. surgeon, detached from the *Marietta* and ordered to the *Virginia*.

Stritel, C. E., P. A. surgeon, discharged from treatment at the Naval Hospital, Las Animas, Colo., and ordered *to Washington*, D. C., for examination for retirement and thence home to wait orders.

Philips, E. W., asst.-surgeon, detached from the Naval Hospital, New York, and ordered to the *Marietta*.

Hoyt, R. E., P. A. surgeon, ordered *to the* Naval Recruiting Station, Buffalo.

Garrison, H. A., asst.-surgeon, detached from the Naval Station, Guam, M. I., and ordered home to wait orders.

Tolfree, H. M., P. A. surgeon, ordered to the Naval Recruiting Station, Cleveland, Ohio.

White, E. C., P. A. surgeon, detached from the Naval Hospital, Newport, R. I., and ordered to the Naval Recruiting Station, St. Louis.

Payne, J. H., P. A. surgeon, having completed examination for promotion, ordered home to wait orders.

Jacoby, A. L., acting asst.-surgeon, ordered to duty at the Naval Hospital, Newport, R. I.

Rennie, W. H., P. A. surgeon, detached from the Naval Recruiting Station, St. Louis; ordered home and granted sick leave for 3 months.

Duhigg, J. T., asst.-surgeon, ordered to the Naval Recruiting Station, Cincinnati.

Baker, M. C., asst.-surgeon, detached from the Naval Recruiting Station, Cincinnati, and ordered to the Naval Training Station, Newport, R. I.

Woodland, E. E., acting asst.-surgeon, ordered to duty at the Naval Hospital, Philadelphia.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended July 6, 1910:

Kerr, J. W., asst.-surgeon general, granted 1 month's leave of absence from July 7, 1910.

Long, J. D., asst.-surgeon general, directed to proceed to Columbus, Ga., on special temporary duty.

McIntosh, W. P., surgeon, granted 4 days' leave of absence from July 5, 1910.

Nydegger, J. A., surgeon, granted 7 days' leave of absence from July 3, 1910.

Grubbs, S. B., P. A. surgeon, granted 4 days' leave of absence en route to station.

Lumsden, L. L., P. A. surgeon, directed to proceed to Norfolk, Va., on special temporary duty.

Anderson, John F., P. A. surgeon, granted 5 day's leave of absence from July 5, 1910. Paragraph 189, Service Regulations.

Leake, J. P., asst.-surgeon, granted 7 days' leave of absence from June 24, 1910. Paragraph 191, Service Regulations.

Altree, G. H., acting asst.-surgeon, granted 30 days' extension of leave of absence from May 3, 1910, on account of sickness.

Duffy, Francis, acting asst.-surgeon, granted 4 days' leave of absence from July 6, 1910.

Houghton, M. W., acting asst.-surgeon, granted 2 days' leave of absence from July 2, 1910.

Morgan, Roy, acting asst.-surgeon, granted 7 days' leave of absence in June, 1910. Paragraph 210, Service Regulations

Stewart, W. J. S., acting asst.-surgeon, granted 1 month's leave of absence, without pay, from June 23, 1910.

Story, Henry C., acting asst.-surgeon, granted 30 days' leave of absence from July 1, 1910.

Walker, T. D., acting asst.-surgeon, granted 11 days' leave of absence from June 28, 1910.

Wetmore, W. O., acting asst.-surgeon, granted 5 days' leave of absence from June 8, 1910, and 1 day's leave June 15, 1910, under paragraph 210, Service Regulations.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HOSPITALS FOR CANCER PATIENTS

To the Editor:—Does the Rockefeller Institute or Hospital for the treatment of cancer receive patients at present? Are there any similar hospitals elsewhere in the country? I have a patient with a cancer in the primary stage whose case would be suitable for such a hospital. T. W. Longfellow, Windfall, Ind.

Answer.—As we understand it the Rockefeller Hospital, now nearing completion, adjoining the Rockefeller Institute, is not to be especially a cancer hospital, but is intended to cover the whole field of medical research. The hospital will not be open for some weeks. When it is opened it will be used to care for a limited number of patients, preferably those suffering from the heretofore incurable diseases; the work will be largely experimental, and the patients received there will have consented to a participation in this experimental work. The Skin and Cancer Hospital in New York City and the Skin and Cancer Hospital in St. Louis are both excellent institutions.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

COUNTY SECRETARIES MEET IN WISCONSIN

The first annual meeting of the Association of County Secretaries and State Officers of Wisconsin was held in Milwaukee, June 21, 1910. Dr. C. S. Sheldon of Madison stated that the object of the organization was to enable county secretaries to get together, to meet with the state secretary and with each other, and to talk over the methods and most successful manner of conducting county society work. Officers were elected as follows: Dr. T. J. Redelings, Marinette, president; Dr. Rock Sleyster, Waupun, secretary; Dr. W. F. Zierath, Sheboygan, vice-president.

Dr. C. S. Sheldon presented a paper on the aims and designs of this association, in which he disclaimed originality as to the idea of such an organization. Accounts of similar organizations in other states had greatly impressed him with their usefulness in bringing the county secretaries into closer touch with the work of the state society and with each other. He told of the services of Dr. Sleyster and of his scheme of the "Booster Club" and the "2,000 for Milwaukee in 1910," and said that Dr. Sleyster had clearly vindicated his title of "Head Booster" and that the outcome of the present meeting would determine the measure of his success. He reviewed the results of organization thus far accomplished in the endeavor to transform the 150,000 disorganized doctors into one compact and harmonious body, and said further: There has been too much jealousy in the profession, resulting in the lowering of the public estimate of the whole profession. The medical expert has become discredited, and malpractice suits are made easy by the alliance of disloyal medical men with unprincipled shysters. The effort to secure sorely needed legislation has been ineffective. Medical men are not accorded the respect and consideration which they deserve, as shown by the ready acceptance of such fads as Eddyism, osteopathy and the like. The solution of these problems has been undertaken by the American Medical Association. The county medical society is the unit of organization and membership therein is the condition of membership in the district, state or national organizations. Organization is proving effective though much is still to be accomplished. Since the movement began the standards of medical education have been advanced and the work of the colleges improved, medical legislation has gone steadily forward, and sanitation and preventive medicine have made great strides.

Time has vindicated the adoption in Wisconsin of the reorganization plan. Previous to its adoption, in spite of the most strenuous and persistent effort, not over a dozen county societies could be kept alive, while the state medical society numbered only about 600, whereas now there are 54 regularly organized county medical societies and a membership in the state medical society of over 1,500. The present meeting was called to discuss conditions in the state and to endeavor to increase the efficiency of the society at least 25 per cent. during the coming year.

A grave responsibility rests on the county secretary, in securing and fostering the scientific spirit in the society, collecting dues, maintaining the organization, securing the best possible programs for meetings, and bringing the members into pleasant social relations. The object and aim of the association is to discuss ways and means to bring about these results and to keep the organization alive and vigorous.

Dr. Sleyster presented a paper on "Some Things This Association Can Accomplish." He said that what could be accomplished might be summed up in these words: It is a chance to get together and talk things over; to learn what your neighbor is doing and how. New ideas and methods are brought to the notice of each member, and adopted by him. Of even more importance is the inspiration and enthusiasm the county secretary should take home with him from a meeting of this kind. He will learn the ideals and results accomplished elsewhere, and obtain a fuller realization of the possibilities of his position. What has been accomplished in national, state or county organizations can be accomplished at home. The standing of the profession with the public is largely dependent on local organizations.

Dr. Sleyster suggested the giving of an hour's time in each society at an early meeting in the year to discussing the nonmembers in the county, and the appointment of a committee to get applications from these non-members; the appointment of a special membership committee to work for new members and the inviting of eligible non-members to each meeting. He urged the holding of a "Booster Meeting" each year, and to begin the campaign early, make careful and accurate plans, and then carry them out. He emphasized the value received for the membership fee paid, showing that each member received the state journal, membership in both county and state societies and malpractice insurance. He advocated the passage of a resolution in each organization instructing the secretary to make a sight draft on a specified date on each member in arrears and thus relieve the secretary of the trouble in connection with collections; that reports of each meeting be sent to the journal; that members be optimistic in writing or speaking of their society; and that formal dignity be dropped when meeting as doctors and friends; and last, and above all else, that each member "be a booster."

Dr. George H. Simmons of Chicago delivered a short address in which he congratulated the association on the good sense of the arguments, suggestions and helpful thoughts contained in the papers which had been presented. He reviewed the plan of improved organization adopted by the American Medical Association by which the county society was made the unit of representation in the state societies and in the American Medical Association. The fundamental thing is the county society, the door through which one must enter to become a member of the state society or of the American Medical Association. The county society elects the members of the state house of delegates, who in turn elect the delegates to the American Medical Association.

Hence the county society should take more interest in what the American Medical Association and the state societies are doing and should be prepared to approve or disapprove. They should devote one meeting each year to the discussion of national and state problems and should instruct their delegates to the state society what position to take on the various questions under discussion and in like manner the delegates to the American Medical Association should represent the views of the majority. Formerly the state society did not appreciate the enormous importance of the House of Delegates of the American Medical Association, but now it has begun to realize the importance of picking representative men as delegates.

At present there are two especially important things before the association, one being the work in connection with medical education, in which every physician should take great interest, and the other the work of the Council on Pharmacy and Chemistry, which should appeal to every physician. If this work is in accordance with the views of the members, it should be so expressed in the county society where the matters should be discussed.

Dr. Simmons called attention to the *Bulletin of the American Medical Association*, published to enlighten the men in charge in the state societies—the councilors, county secretaries and presidents of county societies—containing accounts of the subjects under consideration, i. e., medical education, medical legislation, etc., and to the importance of those subjects, and suggested bringing the *Bulletin* to the county society meeting and discussing the subjects. The American Medical Association and its committees want the views of the individual members as to whether the work being done is in accord with their opinions. We have the machinery, he said, but we have not yet begun to work with the machinery. He emphasized the necessity of securing a good live secretary for the county society. He said that one of the best movements yet started in connection with this work was the organization of these associations of county secretaries, and that provision ought to be made whereby the county secretary should be able to attend these meetings and his expenses be paid. It would do more to help bring about better conditions than any other one thing; and bettering conditions means putting the medical profession higher in the estimation of the people.

Dr. G. Windesheim of Kenosha spoke on "The Relation of the Councilor to the County Society." He called attention to the fact that under the reorganization plan, the councilor was able to be of little benefit to the county society. He is no more the peacemaker, organizer and censor for the county societies but is simply the go-between of the county society and the state society. Each county society should hold a special meeting each year, at which the councilor of the district is present, and discuss such matters as refer to the state society and to the American Medical Association, with which the councilor is supposed to be familiar, and thus explain such matters as may be perhaps misunderstood, and so save the membership of a few men to the state society.

It is questionable whether the office of councilor is really necessary at the present time, except as trustee of the state society, unless some such plan can be adopted. At these meetings the delegates to the next state society meeting should be present and should be instructed as to the question to be brought before the House of Delegates. In that way the state society would get an idea as to what the county societies and the profession generally want.

Dr. H. W. Abraham of Appleton presented a paper on "The Year's Program of the County Society; How Can We Promote Greater Scientific Interests?" in which he said: The scientific program of a medical society is not the most important function of that body. Perfect organization, which includes the best of good fellowship, is the primal object. To be successful, both scientifically and financially, it is necessary to systematize and organize after the manner of a great business enterprise. The scientific program should be the postgraduate school of the profession. Every man should have some favorite line of study each year and should give the results of his studies—clinical experiences, study and review of the literature along some particular line, or original investigation. The program should be the subject of considerable inquiry on the part of the committee. Hunt out a number of individuals having a special interest in some particular subject; give them plenty of time to prepare. As a general rule, a paper should not take up a subject in the order of a text-book. It would stimulate interest and discussion if papers were so written as to emphasize the advances made, by comparison of old with new methods. Each year's program might have a paper on the newer methods of diagnosis brought out during the year; another on advances in therapeutics; another on new surgical methods, and so forth. The progress made each year in medical chemistry and physiology should be brought before the society. Many do not take medical periodicals, and would be more interested in the scientific aspects of medicine by thorough discussion. Cases in which a post-mortem examination has shown a mistake in diagnosis should be carefully written up, bringing out the clinical symptoms and signs that lead to the diagnosis, as such papers furnish a rich field for discussion and are of great practical value. Questions of medical ethics should be brought before the members for discussion. A paper should be read at least once a year on the work done by the American Medical Association. Personal work on the part of officers, especially the secretary, as to the obligation to do good work, which rests on those presenting papers, would be of value.

To sum up, a program is interesting: 1. When the papers are brief. 2. When they stimulate discussion. 3. When they arouse interest for further reading. 4. When they give the results of original work. 5. When stating clearly the advances made in medical science. 6. When they show originality in arrangement and composition.

Dr. M. V. DeWire of Sharon presented a paper on "The Business Side of the Secretary's Work." He said: In the majority of instances the work of the county secretary includes the management of the whole society; keeping the records; collecting dues; remitting to the state society; incurring expenses and paying bills; arranging for time and place of meeting; working up the program; looking after social features; arranging for the clinical cases; printing and mailing programs; soliciting new members and keeping the machinery of the society well oiled and in good running order. The number of meetings each year will vary with the number of members, their convenience in getting together and transportation facilities. The arrangement of the program will depend largely on the turn of mind of the majority of the members and as to whether they are surgeons, obstetricians, internists, etc. It is well to alternate the subjects, and it is advantageous to make here a symposium on the subject so as to be able to discuss it from all angles. The programs should not be too long, but should give ample time for discussion. Social features are an advantage. It is best to arrange a program for at least three months in advance. Clinical cases are a great help and serve to make a deeper impression of the points brought out. Members should be urged to bring such cases before the meeting, and patients can often be persuaded to come by explaining that they will get the benefit of the experience of the entire society. Invitations should be printed and mailed at least a week before the meeting.

As to little infractions of the "Principles of Ethics," patience and ingenuity on the part of the secretary are required. In nine cases out of ten, by seeing the member and talking to him you can usually show him his mistake, and he will be grateful to you for calling his attention to it. Use all the tact you have, all you can borrow and then use more tact.

Dr. J. H. Cleary of Kenosha presented a paper on "Social Features of the County Society." He said: Man is preeminently a social animal, and doctors are no exception. The mere gathering together in a society constitutes a social feature of no mean standing and proves the prime importance of the social element in all human organizations. In order to hold the continued interest of a body of men it is necessary to contribute to their mental or material welfare or to amuse them and most frequently both are necessary. A doctor's life being a serious one, anything that takes his mind from his daily work and furnishes relaxation assumes greater importance in medical organizations than in most other societies. Under the new era of systematic organization in medicine the need for social features in basic societies becomes more apparent. Bickering and enmity cannot long endure the mellow sunshine of the social hour. We must consider the opportunities for social features. In our county we find that holding meetings at the homes of members by invitation guarantees successful meetings, with only sufficient formality to conduct the business of the society. The spirit of sociability and good fellowship prevails. Special amusements provided will depend on circumstances and available talent and varies in different communities. During the summer months one or two meetings may be held in the country, and in counties having inland lakes they should be utilized to the fullest extent. Why not make these summer diversions old-fashioned picnics and bring the ladies? Only too frequently differences are carried into the families of physicians, and the presence of the families would contribute to the desired harmony and a better acquaintance. The annual meeting should be a feature of the county society, and should be made a special occasion. The business being completed in a short time, the social features can be elaborated, and may consist of a banquet and accompanying features. Special meetings may be provided or a regular meeting may be utilized in which to collaborate with neighboring counties. We have had some experience with these joint meetings in Kenosha and they were very enjoyable affairs. The social features of the county society should be in charge of a special committee, and not left to the overworked county secretary.

State Boards of Registration

COMING EXAMINATIONS

ILLINOIS: Coliseum, Chicago, July 20-22. Sec., Dr. James A. Egan, Springfield.

MAINE: Augusta, July 19-20. Sec., Dr. F. W. Searle, Portland.

OHIO: Cincinnati, July 19-21. Sec., Dr. Geo. H. Watson, Columbus.

Minnesota April Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the examination held at St. Paul, April 5-8, 1910. Aside from the written examination, practical tests were given in anatomy, pathology, histology, bacteriology and urinalysis. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 18, of whom 16 passed and 2 failed. Ten reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1910)	88.3
Northwestern University Medical School	(1909)	77.9
College of Physicians and Surgeons, Chicago	(1905)	85.4
Johns Hopkins University	(1908)	90.1
University of Maryland	(1909)	91.2
University of Minnesota, Coll. of Med. (1903) 80.6;	(1909)	79.6, 81.2
Hamline University	(1909)	77.5
Cornell University Medical College	(1904)	79.2
Hahnemann Medical Coll. and Hosp., Philadelphia	(1909)	84.7
University of Pennsylvania	(1886)	83.6
[illegible] Ontario	(1909)	80.8
[illegible] ada (1900) 85.6;	(1906)	82.9
[illegible] Winnipeg	(1890)	83.8

FAILED

College	Year Grad.	Per Cent.
Hahnemann Medical College of the Pacific	(1902)	66.1
Laval University, Quebec	(1899)	72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1909)	Illinois
College of Physicians and Surgeons, Chicago	(2, 1908)	Illinois
Illinois Medical College	(1906)	Illinois
Northwestern University Medical School	(2, 1908)	Illinois
College of Physicians and Surgeons, Keokuk	(1894)	Iowa
Kansas Medical College	(1899)	Kansas
St. Louis College of Physicians and Surgeons	(1906)	Illinois
Beaumont Hospital Medical College	(1899)	Missouri

California April Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, April 5-8, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 90, of whom 73 passed, including 13 osteopaths, and 17 failed, including 3 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Medical College. (1907) 84.2; (1908) 91.6;	(1909)	80.2
Hahnemann Medical College of the Pacific (1908) 81;	(1909)	80.5, 81.1.
College of Physicians and Surgeons, San Francisco (1904) 79.7; (1906) 81.2; (1907) 75, 77.8; (1908) 84.6;	(1909)	80.3.
University of Southern California (1905) 79.2; (1908) 78.1;	(1909)	75.
University of California	(1909)	78.2, 84.3
California Eclectic Medical College	(1909)	82.5
College of Physicians and Surgeons, Los Angeles	(1909)	76.8
University of Colorado	(1897)	82.4
Yale Medical School	(1904)	88.9
Atlanta College of Physicians and Surgeons	(1900)	92.2
College of Phys. and Surg., Chicago. (1897) 98.8;	(1905)	80.7
Northwestern University Medical School	(1895)	75
Hahnemann Medical College and Hospital, Chicago	(1907)	80.3
Northwestern University Woman's Medical School	(1890)	86.1
Medical College of Indiana	(1896)	82
State University of Iowa, College of Medicine (1890) 91.9;	(1907)	78.1.
University of Louisville	(1893)	82.7
Kentucky School of Medicine	(1889)	82.8
Tulane University of Louisiana	(1905)	81.9
Johns Hopkins University	(1908)	88.6
Baltimore Medical College	(1906)	83
University of Michigan, College of Medicine (1889) 82.6;	(1895)	81.4.
Harvard Medical School	(1910)	85.7
Creighton Medical College	(1900)	84.5
University of the City of New York. (1887) 93.7;	(1891)	85.3
Univ. and Bellevue Hosp. Medical College	(1909)	86.4
Coll. of Phys. and Surg. of New York (1885) 89.3	(1908)	78.4
Bellevue Hospital Medical College	(1886)	93.6
Western Reserve University	(1907)	81.2
Cleveland College of Physicians and Surgeons	(1898)	82.9
Miami Medical College	(1908)	77.2
H[illegible]ge, Philadelphia	(1900)	89.4
W[illegible] lical College	(1894)	82.7
[illegible] (1894) 77.7;	(1895)	78.6
[illegible]	(1909)	75, 84.5
University of Vermont	(1908)	80
Laval University, Quebec (1903) 75.6	(1904)	76.3
University of Toronto, Ontario	(1907)	87.5
University of Dublin, Ireland	(1877)	97.7
St. Bartholomew's Hospital Medical College	(1879)	96.3

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Los Angeles	(1906)	69.8
California Eclectic Medical College	(1905)	71.8
Coll. of P. & S., San Francisco (1903) 69;	(1909)	73.6
Rush Medical College	(1895)	71
Drake University	(1896)	46.2
Hospital College of Medicine, Louisville	(1902)	64.2
Tulane University of Louisiana	(1908)	62.1
University of Maryland	(1893)	70.3
Kansas City Medical College	(1891)	73.3
Cleveland College of Physicians and Surgeons	(1884)	*77.5
Jefferson Medical College	(1884)	*78.1
Hahnemann Medical College, Philadelphia	(1909)	73.4
Tokio Medical College, Japan	(1907)	63.8

* Fell below 60 per cent. in one or more branches.

The following questions were asked:

ANATOMY

1. Trace cerebrospinal fluid from the lateral ventricles to the spinal canal. 2. Describe the ramicommunicantes. 3. Name the bones of the tarsus. Use diagram. 4. Indicate, on the diagram, the points of exit from the pelvis of the following nerves: External cutaneous, anterior crural, genitocrural, obturator, sciatic, pudic, superior gluteal. 5. Indicate, on the diagram, the course of the

common, internal and external iliac arteries. 6. What veins are without valves? 7. What cranial nerves are distributed to muscles only, i. e., are motor? 8. Give topographic outline of the lungs and bronchi on the anterior chest wall. Use the diagram. 9. Give origin and course of the eleventh cranial nerve as far as its exit from the skull. 10. What are the characteristics of arthrodial joints? Give five examples of this class of joints. 11. What is the ischiorectal fossa, how bounded and what does it contain? 12. When the arm is hanging with palm forward, what bony prominences at shoulder, elbow and wrist are normally in line?

HISTOLOGY

1. (a) Name the structures found in red bone marrow; (b) give the function of red bone marrow. 2. Draw diagram illustrating lung tissue, naming different structures. 3. Explain the difference between the mucosa of the endometrium and that of the vaginal portion of the cervix. Also make drawing. 4. Give structure of the tonsil. 5. From which germ layers are the following derived: Pancreas, spleen, large intestine, salivary glands, fat? 6. Draw a transverse section of the brain, at a point just anterior to the pons varolii. Name most important parts. 7. Draw diagram illustrating a cell and name all the necessary constituents. 8. Describe the structure of the liver. 9. Explain the difference between the white and gray matter of the brain. 10. What are terminal arteries? Name organs which are so supplied. 11. Identify slides. 12. Identify slides.

BACTERIOLOGY

1. What are the differences in structure, methods of multiplication sporulation, etc., between the blasmycetes or yeasts and bacteria? 2. What changes are produced on the culture media when *Bacillus coli communis* is grown: (a) on gelatine, (b) in milk, (c) in dextrose, (d) in lactose. 3. Describe the conditions necessary to successfully grow *Bacillus tetani* and the appearance of a stab culture in agar or gelatin about the sixth day. 4. What is the difference between an antitoxin and a bacterial vaccine? 5. Name four pathogenic anaerobic bacteria. 6. Differentiate between the bacillus of tuberculosis and *Bacillus lepræ* taking into consideration staining, culture peculiarities, effect on tissues and relation to tissue cells of the host. 7. Describe briefly how you would make gelatin plate cultures, using material from a furuncle as the source from which to obtain the germ. 8. Name ten pathogenic bacteria that are Gram-positive. 9. What do you understand by the opsonic index? 10. How would you sterilize (a) a culture tube of gelatin, (b) a glass container with rubber stopper, (c) a platinum needle in a glass handle. 11. Identification of cultures. 12. Identification of slides.

CHEMISTRY

1. What is the poison in most headache powders? Its effect? Antidote? 2. Mention six elementary substances commonly used in their pure state in medicine. 3. What does the presence of an abnormal quantity of chlorin in drinking water indicate? 4. How would you detect the presence of bile in the urine? Give two tests. 5. Give the reaction, specific gravity and percentage of fats in normal cow's and woman's milk. 6. Mention a secretion in the body that contains cholesterin, one that contains pepsin, and one that contains trypsin. 7. What antidotes should be used in phosphorus poisoning? Explain the action of each. 8. Define and illustrate (a) capillary attraction, (b) absorption, (c) diffusion, (d) osmosis, (e) endosmosis. 9. In what principal form is nitrogen eliminated from the body? Give the chemical properties of nitrogen. 10. What is the chemical composition of the various renal calculi? 11. Mention one chemical antidote for each of the following: (a) Phenol, (b) arsenious oxid, (c) sulphuric acid, (d) mercuric chlorid, (e) oxalic acid. 12. What are the distinguishing characteristics of urates and uric acid as found in the urine? Give test for uric acid.

PHYSIOLOGY

1. How and where is lymph formed? 2. Discuss sleep and its causation. 3. Discuss briefly the influence of the nervous system on the digestive secretions. 4. Describe the movements of the intestines during digestion. 5. (a) Explain the eff[illegible] expiration on the volume of the brain. (b) Inspiration. 6. D[illegible] function and fate of glycogen. 7. What is the [illegible] between the brain of man and that of lower animals? 8. Under what circumstances may functional union be made between fibers of different nerve trunks? What practical value has this operation? 9. Give nerve supply and action of muscles concerned in the movements of the eyeball. 10. Do we determine the function of a nerve by the location or function of the center from which it comes or by its peripheral connections? Give your reasons. 11. What is the effect of a destructive lesion in the posterior limb of the internal capsule? 12. To what extent is the secretion of sweat under nervous control? Vascular?

PATHOLOGY

1. Describe the difference in the pathologic changes which take place in degeneration of the tissues and those which take place in atrophy. 2. Give the pathology of tabes dorsalis. 3. Describe the gross and microscopic changes which take place in the spleen, liver and kidneys as a result of prolonged exposure to malarial infection. 4. What are the postmortem changes usually found in diabetes mellitus in (a) children; (b) in adults of middle age; (c) in adults of advanced age? 5. What is the [illegible] blood pressure in adults from 50 to 60 years of age measure[illegible] f mercury? And describe the results if this pressu[illegible] a considerable time. 6. In bony tissue, what variety of malignant growths usually occur and why? 7. Under what conditions is cerebral embolism most likely to occur? What blood-vessels are most likely to be affected and why? 8. Describe the local lesion caused by infection by anthrax bacilli; the general or systemic effects and state how infection usually occurs. 9. Describe the condition present in acute dilatation of the heart. Give the immediate and predisposing causes and the usual final result. 10. State fully why urinary bladder disorders are so frequent and so resistant to treatment in both elderly men and in elderly women. 11. Identify 2 slides. 12. Identify 2 slides.

HYGIENE

1. Describe in detail the method of transmission of yellow fever. 2. What measures would you adopt to prevent the spread of typhoid fever during an epidemic? 3. What is a septic tank? Describe construction and explain how it acts. 4. What sanitary measures should be adopted in caring for tuberculous patients? 5. Name five of the most common intestinal parasites, and give a short description of each. 6. Give three ways of fumigating a room with formalin; also two methods with other disinfectants. 7. What effect have venereal diseases on the propagation of the human species? Explain. 8. How does the hookworm usually enter the human body? What means would you adopt to prevent its spread? 9. Describe the technic of vaccination and give the course of a successful case. 10. What is the period of incubation of the following diseases: Plague, smallpox, diphtheria, scarlatina, measles? 11. What is the object of placing traps on all waste pipes? What danger to health would arise if there were no traps? 12. Describe two types of water filter. What should be accomplished by a good filter?

OBSTETRICS

1. What zymotic diseases are liable to affect the pregnant and puerperal woman, and how? 2. How soon after the completion of the second stage of labor should the umbilical cord be ligated? How dressed? What are the dangers of improper dressing? 3. What injuries are liable to occur to the birth canal during labor? 4. Under what circumstances are anesthetics indicated in labor? What are the dangers? 5. What are the causes of premature rupture of the membranes? How does it influence the progress of labor? 6. How would you determine if a child is premature at birth? 7. Differentiate between retained and adherent placenta: the management of each. 8. What can be determined by external palpation of the pregnant woman at the eighth month? How should it be performed? 9. What are the so-called false pains of labor? Differentiate from true pains. 10. Rupture of the uterus, etiology and symptoms. 11. Give the physiology of menstruation, of ovulation, relation if any. 12. What is inversion of the uterus? Diagnosis and management.

GYNECOLOGY

1. Give the conditions justifying operative measures in fixed retro-displacement of the uterus. 2. Describe a pelvic hematocele and give the usual cause. 3. What is the pathology of pelvic cellulitis and what are the physical signs? 4. Name the most important causes of sterility. 5. Differentiate between a pudendal hernia and a pudendal hematocele. 6. What do you understand by the operation for perineorrhaphy? 7. Give the etiology and pathology of chronic endocervicitis. 8. Describe a case of carcinoma uteri and give some of the most prominent physical signs. 9. Discuss the matter of relative prognosis of cancer of the body of the uterus and cancer of the cervix. 10. Describe the mode of use and purpose of a vaginal tampon. 11. Differentiate between herpes of the vulva and chancre. 12. Name the muscles of the perineum and give the functions of the perineal body.

GENERAL DIAGNOSIS

1. Give the physical signs of a pleurisy with effusion. 2. Give the symptoms of bubonic plague. 3. Give the symptoms and physical signs of aortic insufficiency in the stage of failing compensation. 4. Give varieties, etiology and symptoms of chorea. 5. Give the symptoms of tabes dorsalis. 6. Describe a Colles' fracture. 7. Give the points on which you would make a diagnosis of cancer of the stomach. 8. Describe diabetes mellitus and differentiate it from diabetes insipidus. 9. Differentiate rubeola from scarlet fever. 10. Describe the secondary lesions of syphilis. 11. Give the symptoms of a transverse myelitis. 12. Give the symptoms of cholelithiasis.

Book Notices

THE ELEMENTS OF THE SCIENCE OF NUTRITION. By Graham Lusk, Ph.D., Professor of [illegible] Cornell University Medical College, New York City. [illegible] Cloth. Price, $3 net. Pp. 402, with 13 illustrat[illegible]: W. B. Saunders Co., 1909.

This is an important publication and deserves more than passing notice. Not only does this bring the whole subject up to date, but several of the chapters are practically rewritten, so great has been the advance in knowledge since the appearance of the first edition three years ago.

In the introductory chapter the author reviews the progress in our knowledge of nutrition, beginning with the "Aphorisms" of Sanctorius and following with a rather detailed account of the work of Lavoisier, Liebig, von Voit, Pettenkoffer, Pflüger, Rubner, and many others less widely known. Some fundamentally important truths of nutrition may well be quoted in the author's concise terms: "Metabolism in the body is not proportional to the combustibility of the substance outside the body; but protein, which burns with difficulty outside, metabolizes with the greatest ease; then carbohydrates; while fat, which readily burns outside, is the most difficultly combustible in the organism" (Voit).

"The quantity of oxygen needed in metabolism depends on the kind of material that burns in the organism. . . . The absorption of oxygen does not cause metabolism, but rather the amount of metabolism determines the amount of oxygen to be absorbed. The metabolism of the tissues, through its oxygen requirement and its carbon dioxid production, changes the condition of the blood and thereby regulates respiration."

An intelligent basis for the understanding of the process of nutrition is best acquired by a study of the organism when it is living at the expense of materials stored within itself, as it does in starvation. In the chapter on starvation is explained that during starvation an animal lives on its fat and protein and that its length of life depends on these. When there is no fat, protein may burn exclusively, therefore "the quantity of the protein metabolism in starvation depends on the amount of fat in the body." "The actual loss of body weight is greater when protein is the source of energy than when the energy is derived from fat," because it requires 33 gm. of protein to yield 26.4 calories of heat, while 2.8 gm. of fat will yield the same.

The chapter on the regulation of temperature is a most important one. Warm-blooded animals maintain an even temperature through the interaction of two factors: (1) heat generation (thermogenesis) through tissue metabolism; and (2) loss of heat from surface (thermolysis) through radiation, conduction and evaporation of water.

Metabolism is proportional to the superficial area of an animal, but other factors, such as low external temperature, cold baths, wind, humidity and clothing influence metabolism and also modify the loss of heat from the surface of the body.

The recent interest in the "low protein" diet advocated by Chittenden gives the chapters on the influence of protein food an especial importance. Proteins are now definitely known to be constructed of chains of amino-acids. After citing the work of Emil Fischer in building up protein bodies synthetically, describing the products of their hydrolytic cleavage and the methods of the construction of muscle, gland, nerve and other tissue by their synthesis after absorption, Lusk says that any excess of protein ingested is promptly catabolized, or fat may be deposited. He discusses the influence of fat and carbohydrates on metabolism and refers to the experiments of Meissl and Strohmer, Voit, C. Lehmann and Rubner, in which it was shown by experiments on pigs, geese and dogs that the capability of building up fat out of carbohydrates is widespread in the animal kingdom. It is valuable to know that one may diet an obese patient on a food containing little protein and two-thirds of the body's energy requirement without danger of protein loss, the other third of the energy being furnished by the body fat.

In the chapter on the "Influence of Mechanical Work on Metabolism" the author shows that the muscular work does not increase protein metabolism, quantitatively, or change it in character. The power to accomplish muscular work is not usually derived from protein metabolism, but from the combustion of sugar and fat; therefore physical exercise requiring fat consumption without concomitant destruction of protein must be of the greatest value in the treatment of obesity. The increased output of carbon dioxid due to mechanical work is always directly proportional to the work accomplished.

Lusk reports the influence of alcohol on muscular work, as studied by Shumburg and by Hellsten. Both of these investigators found a temporary increase in working power of the muscle, "but after twelve to forty minutes there is a decrease in power which lasts for two hours. No such depression occurs after taking sugar. It is obvious that alcohol is not beneficial when muscular work is to be accomplished."

The influence of training is to make the use of body energy more economical.

Later chapters of this valuable work are devoted to: "A Normal Diet;" "Food Requirement During the Period of Growth;" "Metabolism in Anemia, in Diabetes, in Fever;" "Purin Metabolism—Gout," and finally Chapter XV gives a summary of the theory of Metabolism. The chapters on diet and metabolism in disease are of especial value to the clinician.

The theory of metabolism is a valuable formulation of the known facts and closes with the following sentences: "Living protoplasm metabolizes in accordance with its necessities at the time and never more. A large supply of nutrient materials will not increase cell metabolism. If food is ingested above the requirement of the organism any excess will be retained in the body (unless it has passed out unabsorbed). However clearly formulated the laws of metabolism may be—and many of them are as fixed and definite as are the laws of physics and chemistry—still the primary cause of metabolism remains a hidden secret of the living bioplasm."

The widespread interest in the subject of nutrition at the present time makes this a timely and valuable addition to the literature of the subject.

Hygiene and Morality. A Manual for Nurses and Others, Giving an Outline of the Medical, Social and Legal Aspects of the Venereal Diseases. By Lavinia L. Dock, R.N., Graduate of Bellevue Hospital Training School. Cloth. Price, $1.25 net. Pp. 200. New York: G. P. Putnam's Sons, 1910.

This book, after vividly describing the so-called social diseases, syphilis, gonorrhea and chancroid, historically, clinically and from their sociologic aspects, plunges into the subject of prostitution; giving the history of legislation on the subject. Segregation, regulation and licensing of prostitution are all condemned unsparingly. The author then discusses white slavery and the age of consent, and scathingly arraigns legislators, ministers and the medical profession, as well as the male population in general, for their indifference or positive opposition to measures for the betterment of the condition of women in this respect. She acknowledges, however, that through the efforts of various societies and individuals, principally supported by women, there is recently an awakening on these subjects that promises much for the future, and gives the medical profession especial credit for endorsing and supporting the proposition that continence is not inimical to health. After giving a practical outline of measures for preventing, through prophylactic education in the hygiene of sex, and by other means, many of the evil consequences of what she calls "commercialized prostitution," and the social diseases, the author, who has evidently studied long and thought much and deeply on these questions, advocates as the real solution of the problem equal standards of purity for the two sexes and woman suffrage. However one may feel about the latter conclusion, the book certainly presents in a strong manner the truth about evils which cry aloud for some solution, and should help in bringing about the enlightenment of the public. It will undoubtedly bear a goodly share in arriving at whatever measure of success is attained in that direction.

The Expectation of Life of the Consumptive after Sanatorium Treatment. By Noel D. Bardswell, M.D., Medical Superintendent, King Edward VII Sanatorium. Cloth. Price, $1.50 Pp. 130. New York: Oxford University Press, 1910.

The problem of life expectancy in the consumptive class requires for its solution accurate life-histories of a large number of patients subsequent to their discharge from sanatoria. Such histories have not been available, partly because of the difficulty of keeping in touch with discharged patients and partly because results have not confirmed the prophesies of some ardent advocates of sanatorium treatment. Dr. Bardswell has made a small but valuable contribution in this record of 241 cases of tuberculosis, which includes 62 cases of incipient disease, 95 of moderately advanced and 84 of far-advanced cases. He believes that his statistics indicate that a permanent recovery may be expected in from 70 to 80 per cent. of cases of early consumption, in from 40 to 60 per cent. of moderately advanced cases and in 8 to 10 per cent. of the far advanced cases. If like statistics from many observers can be steadily collected and critically and impartially analyzed, we may, in time, arrive at the consumptive's expectation of life and at the same time ascertain the true value of the sanatorium and other treatment.

A History of the London Hospital. By E. W. Morris. Cloth Price, $1.75 net. Pp. 296, with illustrations. New York: Longmans, Green and Co. [1910].

Those who imagine from the title of this book that it is a dry and prosy chronicle of facts relating to the institution named in the title will be agreeably surprised. The author has really painted a panoramic picture of the progress of medicine and surgery from the time of the founding of the London Hospital, in 1740, to the present time. More than that; he has given in interesting detail the conditions obtaining among such of the poor and needy as, when ill, applied to this hospital for relief. The book is indeed a history, and a most instructive one, of British medicine, with the London Hospital for a central theme. To read it is to admire the magnificent pioneer work of those who have gone before and to be thankful that one is living in the twentieth century. Having read it, one has a clearer conception of what the British system of supporting hospitals by voluntary contributions means.

THE DISEASES OF INFANCY AND CHILDHOOD. Designed for the Use of Students and Practitioners of Medicine. By Henry Koplik, M.D., Attending Physician to the Mount Sinai Hospital. Third Edition. Cloth. Price, $5. Pp. 944, with 233 illustrations. Philadelphia: Lea & Febiger [1910].

This edition is considerably enlarged, thoroughly revised and brought up to date. The book reflects the mature experience of a keen observer. It is reliable throughout, is abundantly illustrated, and is, in every way, well balanced, both as a textbook for the student and as a reference book for the general practitioner. The chapters on certain subjects with which the author is perhaps most naturally associated in our minds, such as those on meningitis, the acute infectious diseases, etc., are especially noteworthy. The chapters dealing with infant-feeding and nutritional disturbances in infancy reflect to a large extent and in a very refreshing, though conservative, manner the recent advances in our knowledge of that subject. The book can be safely recommended as one of the best exponents of American pediatrics.

THE CONQUEST OF CONSUMPTION. By Woods Hutchinson, M.D., Author of "Studies in Human and Comparative Pathology," etc., and Clinical Professor of Medicine, New York Polyclinic, etc. Cloth. Price, $1 net. Pp. 138, with illustrations. Boston: Houghton Mifflin Company, 1910.

Woods Hutchinson is a sort of hygienic John the Baptist and goes forth preaching in the wilderness of the lay world. He discusses the enemy—tuberculosis—what happens to the bacillus in the human body, the weapons for the fight against the enemy, how to get fresh air and sunlight (he considers food in reality as the greatest foe of consumption), discusses intelligent idleness, the question of the camp and country, the financial question, the expense of treating tuberculosis, the matters of climate and health and ends with specifications for the open-air treatment of tuberculosis at home. The book is hopeful, encouraging, and can be heartily commended.

PRESCRIPTION WRITING AND FORMULARY. By John M. Swan, M.D., Associate Professor of Clinical Medicine in the Medico-Chirurgical College of Philadelphia. Flexible leather. Price, $1.25 net. Pp. 185. *Philadelphia. W. B. Saunders Co.*, 1910.

This is an excellent little manual. Owing to the multitude of private formulas and "ethical" proprietary remedies, the average student who graduates is unable to write a prescription correctly. This little manual takes up the construction of prescriptions. Latin forms and terminations, the Pharmacopeia, weights and measures, doses, abbreviations and incompatibilities and has an appendix of more than 100 pages devoted to a formulary for various conditions, alphabetically arranged.

THE INFLUENCE OF STRONG, PREVALENT, RAIN-BEARING WINDS ON THE PREVALENCE OF PHTHISIS. By William Gordon, M.D., Physician to the Royal Devon and Exeter Hospital. Cloth. Price, 7 shillings 6 pence net. Pp. 108, with illustrations. London: H. K. Lewis, 136 Gower St., W. C., 1910.

This work shows an enormous amount of detail work and it is regrettable that it can be of little value save to the statistician. Few conclusions of value are made—the most important probably being that the prevalence of strong rainy winds appears to be remarkably associated with the increased prevalance of tuberculosis, while the absence of such winds appears to correspond strikingly with the rarity of the disease.

Society Proceedings

AMERICAN ACADEMY OF MEDICINE

Fifteenth Annual Meeting, held in St. Louis, June 4 and 6, 1910

The President, DR. JAMES H. MCBRIDE, of Pasadena, *in the Chair*

The officers elected were given in THE JOURNAL June 18, p. 2053.

Report of Committee on Essential Subjects to Be Taught in a Medical School

DR. EDWARD JACKSON (Chairman), Denver: A most urgent present need regarding medical education is careful consideration of just what matter should be placed before the student by the teacher of each subject in the medical curriculum. The paramount need is wise selection. The giving to each individual teacher absolute control of the matter of selection and of a certain portion of the time and energy of each medical student, with little attempt to closely co-ordinate his own with the work of the different departments, has developed a state of pedagogic anarchy. A proper corrective would be a general discussion in which the suggestions of the teacher of one branch should be criticised by the teachers of the other branches.

In this connection it would seem advisable that the Academy should devote a mid-year conference, held probably in connection with the Association of American Medical Colleges, to the discussion of this general subject. The underlying thought of papers presented at such a conference should be to seek an agreement as to the relative order of the importance in the training of the topics to be taught in a particular branch. In making such selection of topics certain general needs and facts must be acknowledged as fixing their relative values in the required course. For example:

The general developmental value of the topic, especially in the fundamental branches. Some natural order of development, and the practicability of studying certain things better in college while others may be as well or more readily studied afterwards. The need of mutual understanding among physicians in giving professional unity; the appreciation by each of work in all branches with ability to appropriate that which can be made useful in one's own work. The facts that every graduate should be fitted to render some definite practical service to the community before he is heralded as a doctor of medicine, and that the required undergraduate training is the beginning of a process normally to continue throughout the whole professional life.

While, for development in conformity to individual tastes and desires, some freedom must be given from the beginning, the full latitude in this respect must be left for the postgraduate period of development.

Educational Principles Involved in the Combined Course in Arts and Medicine

DR. A. ROSS HILL, University of Missouri, Columbia: The arrangement by which a student pursues general courses in letters and science for two or three years, then for a year or two follows about equally fundamental courses in the sciences of anatomy and physiology with vocational or professional motive to stimulate his interest, but with an emphasis on the spirit of discovery and on scientific method, then spends two or more years in specifically professional training with the hospital clinics for his laboratory, seems to recognize the normal development of special interests and the gradual growth of professional insight toward that maturity of judgment which is demanded of even the beginner in the field of medical practice; while it saves the immature student from the pursuit of that narrow practicality which forever limits his power to think and his ability to grow and adapt his judgment to new conditions and new scientific discoveries. To object to it on the ground that it means counting one and the same course to two degrees is purely formal and arbitrary and would be considered puerile were it not for the educational standing of those who offer the objection. The severest criticism that seems at all fair to pass on the combined course is that it is good enough for those who will not adopt a better plan, the better plan being the requirement of the A.B. degree of candidates for entrance to the school of medicine.

The ultimate solution of the problem of how to secure sufficient breadth of preliminary training for the medical student without unduly prolonging the period of preparation seems to lie in the improvement of our elementary schools, which are now wasting about two years of the average pupil's time. When the present standard for the A.B. degree will have been attained by normal, unretarded youth at twenty instead of twenty-two years, the requirement of an A.B. degree, representing in the main humanistic culture, will become a natural standard for admission to schools of medicine, and the combined course will become inadvisable. Till then it seems not only to furnish a reasonable standard of requirement, but to be based on sound educational principles.

Is the Profession Losing Its Grip?

Dr. Charles McIntyre, Easton, Pa.: Physicians of to-day do not occupy the same relation to the world of education and science as they did in the middle of the last century. Many doctors of medicine were teaching general science and other subjects in colleges in the decade 1841-1850, while to-day in these colleges not a single M.D. occupies a corresponding chair. On the other hand, it is a frequent occurrence to find men without the M.D. degree holding prominent chairs in medical colleges, serving as directors of health departments of our municipalities and writing school physiologies. The question is raised, is not the condition due to the narrowing influences of the early specializing in the present scheme for medical education? Professor Dewey, of Columbia, is quoted as saying that much of the science teaching has failed to be a means of liberal education because of the faulty method of many of the teachers, and the assertion is made that the temptation to pursue the faulty method is greater in the medical college than in the undergraduate department. It may, perhaps, be said that the present system of education is not a success because its promoters are desirous of so many changes requiring more time. It seems pertinent to question the correctness of the principle of the present scheme, and to suggest that more attention be paid to the preliminary general education than now, teaching thoroughly the rudiments of medicine in the medical course, and transferring much that is now attempted to elective postgraduate work.

DISCUSSION

Dr. E. P. Lyon, St. Louis: My own observations have shown me that the man with the two years' training, the man who takes six years of college and medical work, is able to advance to a much higher degree of attainment than the man who goes into the medical school from the high school. I believe the combined course is the ideal toward which we should all work in medical education. I agree with Dr. Jackson in his reference to a state of "pedagogic anarchy" in some medical schools. It would seem that there ought to be a medical normal school in which men could learn how to teach. In my opinion the main reason why men who devote their entire time to the fundamental sciences should be encouraged to teach these subjects rather than practitioners is that most of them are graduates of laboratories in which they have had to do some teaching and are men pre-eminently interested along this line.

Dr. Thomas D. Davis, Pittsburg: The trouble with our medical educational institutions to-day is that they are trying to make too much out of students and demanding of them many things that are impracticable. No one should leave college with the idea of being equipped as a specialist. That is the work of the post-graduate school.

Dr. J. E. Tuckerman, Cleveland: The man who would be fitted by temperament, by natural ability, to take up the study of medicine has no need to waste, as he now does below the college course, two to four years. We must begin far down in our educational system to put it on a proper basis. If we say that laboratory teaching should be done entirely by laboratory men, we run into another difficulty. I have known efficient chemical laboratory men to be ignorant of clinical facts concerning drugs about which they were teaching.

Shall the Ph.D. Be Granted for Work in the Surgical Sciences?

Dr. Arthur E. Hertzler, Rosedale, Kan.: The functions of a university are humanistic, scientific and practical. The practical can reach its highest perfection only when based on the humanistic and the scientific. The science of medicine is a department of biology. Applied medicine is but the discovery and application of forces which negate the counteracting forces as revealed by pathology. Chemistry, anatomy, physiology and pathology are now accorded academic recognition. With men and equipment equal to those now available for the fundamental branches, surgery would reach and maintain the same high scientific level. So-called practical medicine is but an apology for the lack of scientific methods, with the introduction of scientific methods. Practical medicine will give place to the "applied science of medicine." With the granting of university rank the science of surgery will share the benefits of definite organization and will profit by the humanistic spirit of the university, and will encourage picked young men who desire to devote themselves to scientific careers to select surgery as the field of their activities as the fundamental branches have in the past.

DISCUSSION

Dr. Henry B. Ward, Champaign, Ill.: The answer to Dr. Hertzler's question must be traced to present conditions. For the granting of the Ph.D. in the surgical sciences there must be in the curriculum opportunity to do research work. The intensiveness also of an institution is a factor. The man who would take the degree must have the opportunity to go far beyond the limits of ordinary instruction. How many of our colleges are prepared to offer this opportunity? In the matter of adequate teaching, the man who shall successfully direct the work of the student for the degree of Ph.D. must be one who has the vision of the prophet, one who seees beyond the limits of the known, who has sufficient grasp and insight into the future to indicate to his disciple the successful lines of attack in mastering the unknown. And, while results depend largely on environment, fundamentally they depend on the individual student, and the question ultimately is one of mental caliber. Personally, I confidently look forward to the time when the medical schools of this country will not only in surgical sciences but in all branches offer the Ph.D. degree, and will carry their students to the point where they will thoroughly deserve that degree. Then the contributions of America to the advancement of medicine will be worthy of a great nation.

Dr. Henry B. Hemenway, Evanston, Ill.: I hope the day is far distant when Professor Ward's proposition will come true. I would have the degree of M.D. stand for the very best we can get in medicine, allowing to those who have achieved something extraordinary an honorary degree. Let it be a purely honorary matter, not a matter of commercialism. I do hope, however, to see the time when the colleges all through the land will give a training which would be equal to that which might command the Ph.D. degree.

Correlation of School Health Supervision With Other Health Agencies

Dr. Ernest B. Hoag, Berkeley, Cal.: School health supervision ought to be under the control of the Board of Education and not under the board of health in all places, with the possible exception of larger cities with well organized governments. There ought to be a cooperation between the school health officers and the city health officers that there need be no duplication of effort. It is usually possible to bring various health organizations such as the associated charities, the medical dispensaries, the dental dispensaries and certain social welfare societies under one general organization. In Berkeley all of these health agencies have been brought together under one roof with great economy of effort, effectiveness, time and money.

The School System and the Child

Dr. A. L. Benedict, Buffalo, N. Y.: In reference to the frequent condemnation of the modern system of education, it may be said that a system that has been increasingly bad should manifest itself by an increasing mortality in the rising generation. On the contrary, there has been a decided decline of the death rate and an increase of the average longevity of about seven years in a generation. Much of the reputed ill-effects of our school system may be attributed to extrinsic causes. Many children are insufficiently fed and clad, and are overworked by their parents. The criticism that the school system treats the children wholesale instead of considering individual capabilities is but a reflection of the requirements of life in a republic. While in large cities the establishment of special courses for those above and below the average capability might be advisable, the present standards represent fairly well the capability of the majority of pupils. The school has been of immense benefit also in having corrected purely physical defects, the cause of dulness. The verdict of the child himself is distinctly favorable. Even proportionate to the population the high school attendance has doubled or quintupled in the last 25 years. This could scarcely be the case if the grammar school were either physically injurious, cruel, or inconsistent with the real needs of the people.

DISCUSSION

Dr. Thomas D. Davis, Pittsburg: We do not give the public schools the high praise they deserve for what they accomplish in the small amount of time they have with the scholars. The charge is often made that the children are burdened with overwork, but I could cite instances showing that the strain is put on the child at home, and the school is wrongly charged with the nervous break thus wrought.

Dr. Helen C. Putnam, Providence, R. I.: How we look at the public schools depends on what we consider they are for. We consider that they are to make good citizens. The parents have been criticized very severely, but the public schools did not educate them to become good parents; consequently their children are not being well trained. That is one way in which the public schools are far behind the needs of the country. We have 500,000 tramps, and over 90 per cent. have been in our public schools. Why are they tramps if the public schools did their duty by them? We have a large class of paupers unable to support themselves and only a small proportion able to read and write. There is something about the education of the masses in this country that is at fault. I am entirely willing to grant a lot of good intention with regard to the public schools, but until we can supply institutions that will give teachers a better training, and have appointed committeemen who instead of being politicians, are up to the standards in their ideas with regard to education and what education is for, I think we must strive with every faculty we have to try to improve our public schools.

Dr. Leartus Connor, Detroit: The importance of manual training in the schools ought to be emphasized. The severest criticism I have to make of the whole school system is that it magnifies the power of book knowledge to the detriment of the practical knowledge that enters into the life of a citizen.

Dr. Henry B. Ward, Champaign, Ill.: I agree with Dr. Putnam that the schools are not doing what they ought, but that is not the fault of the schools. When we consider that the child spends one-tenth of his time under the influence of the teacher, it is unreasonable to charge the shortcomings in the case to this influence and ignore the other 90 per cent. of influence. The fundamental difficulties can never be righted exclusively by the school. There will be required the influence of the home to make the product of America higher and better in the next generation.

The Social Aspect of the Gonococcal Infection of the Innocent

Dr. W. A. Newman Dorland, Philadelphia: Discarding the statistics of the alarmists, who estimate that as many as 90 per cent. of pelvic inflammatory cases in women are due to the infection, 50 per cent. may be attributed to this cause. Not only are there innocently infected women, but there has been marked increase of the infection in little girls. It is the concern of the medical profession to exert greater care in the "social" treatment. Social status does not afford immunity and social status does not guarantee personal purity. While the time may not be ripe for the state to require a medical certificate, the young woman's parents may demand a clean bill of health. Especially should the profession avoid the fallacy that health and continence are not compatible. By no means during the presence of the disease should a gonorrheic marry. The disease is curable; when cured there is no danger of communication.

Ocular Disease in Hereditary Syphilis

Dr. S. D. Risley, Philadelphia: More than 60 per cent. of all cases of iritis applying for treatment are due to syphilis, and at least 35 per cent. of all blindness is the result of gonococcic infection during parturition.* The vast majority of cases of interstitial or parenchymatous keratitis are unquestionably due to hereditary syphilis. Thus syphilis stands to-day, as it has stood for generation after generation, the darkest blot on the fair escutcheon of our Christian civilization. Attention should also be called to the very large group of patients suffering from chronic forms of eye disease which are difficult to classify, but which are doubtless due to impaired general nutrition, the result of mild or less virulent doses of the infection.

The Social Plagues and the Public Schools

Dr. Ira S. Wile, New York City: The state in compelling attendance at public schools tacitly assumes the responsibility of safeguarding children from all contagious and preventable diseases communicable at school. Books on school hygiene and medical inspection of schools do not refer to venereal diseases as part of a school problem. Medical examination of teachers demands more attention. Janitors, scrub women and attendants are known sources of venereal infection. Of the new admissions to schools for the blind in 1907, 25.21 per cent. were due to ophthalmia neonatorum. To educate the blind costs eleven times as much as to educate one with normal sight. The school problem consists principally in prevention by abolishing common drinking cups, towels, pencils, sponges, etc. Toilet facilities must be improved. Examination of genitals must include microscopic examination of mucus or pus. The boards of health should make such examination gratis. Children require better hygienic education in order to protect themselves when puberty develops.

The Black Plague and the Educational Remedy

Rev. George R. Dodson, St. Louis: In fighting the black plague the first thing is to turn on the light. At present we instruct children in many matters of minor importance and keep from them the knowledge that would save them from their greatest dangers. In conveying this instruction the simple, direct method is the best. There is nothing so eloquent as the terrible facts. It is essential that the people should initiate and carry on this reform, for only those social movements which have behind them popular conviction "stay put." Such legislation as may be enacted should aim rather at enlightenment and educational effects than at considerable direct results. The public will respond as soon as it is made clear that venereal disease destroys not only the dissolute, but that in immense numbers it blights the lives of the innocent. Furthermore, the teaching that saves from the black plague will also raise the whole subject of the transmission of life from the low plane it occupies in the thoughts of many, and the by-product of our instruction will thus be of almost as great value as the public health which is the main aim.

OHIO STATE MEDICAL ASSOCIATION

Sixty-fifth Annual Meeting, held at Toledo, May 11-13, 1910

(Concluded from page 155)

Two Cases of Heart Block

Dr. L. C. Grosh, Toledo: One case illustrates block at the auriculoventricular juncture, and the other at the sinoauricular juncture. By heart block is to be understood an imperfect conduction of the impulse from one cavity of the heart to another. In man two forms have been found: a failure of some of the beats to pass the block, and when none of the impulses are conducted from one part to another. Either of these may result from interference with the vagus center; any interference with the vagus nerve or its terminals, or by changes in the myocardium. The first case was under observation for four years with unusual opportunities for registering both the venous and arterial pulse. The condition was changed from complete block to normal two different times. The blood pressure was at all times over 200. There was a complete series of transitional forms from the 1-1 rhythm in which conduction was adequate, through 3-2, 2-1, 5-2, to 7-3 and 8-3 rhythm, and it is difficult to state at what point the ventricle became independent of the auricular tutelage. The second case, that of a man showing emaciation, anemia and a palpable tumor connected with the pylorus, was under observation a year, during all of which time the arrhythmia persisted without fundamental change until death. A microscopic examination in the area described by Heath and Flack revealed marked proliferation of the connective tissue and minute plaque-like calcareous deposits.

DISCUSSION

Dr. J. E. Greiwe, Cincinnati: The interesting feature of the analysis is that the muscular tissue of the heart must be considered as divided into two classes: the tissue which has to do with contraction and expansion of the blood vessels, and the tissue which is associated with the function of conductivity. There is a definite path for the stimulation of conduction. It has been found that this does not pass directly to the ventricular wall but into the papillar muscles, and on to the muscular fibers from above downward and then back to the heart. If there is a sclerotic process of the heart, a great deal depends on the seat of the trouble. In acute myocarditis there may be no change in the rhythm of the heart; and where there is marked change in the rhythm there may be no extensive myocarditis.

Dr. L. C. Grosh, Toledo: The work done from a physiologic standpoint is of great importance. The rather peculiar tissue that is gathered into the so-called bundle of His has had some of the primary functions of the heart attributed to it, and while this is more or less speculative, I feel that the heart has developed up around this peculiar primary cardiac canal.

Diagnosis and Treatment of Early Pulmonary Tuberculosis

Dr. J. P. DeWitt, Canton: The fact that present methods of treatment will effect a cure in tuberculosis in ninety to ninety-five per cent. of cases if applied early should stimulate all medical men to become competent to make an early diagnosis. Inspection, palpation and percussion are of little value in early cases, and information must be had through auscultation. One should proceed to the use of tuberculin to prove the diagnosis. Close observation will often reveal a local reaction (e. g., by the use of Hay's laryngoscope) without general reaction occurring. The inunction of the tuberculin ointment of Moro or the cutaneous test introduced by von Pirquet is usually employed first; if reactions do not occur, the old tuberculin of Koch is injected subcutaneously. After gradually increasing the dose from one-tenth to ten milligrams, if no reaction has occurred it is quite certain that the patient has not early tuberculosis. Few patients in limited financial condition ever recover from well-developed tuberculosis. Observation will show that many supposed to have been cured by rest and feeding relapse. A cure is due to the infected organism establishing an immunity to the tubercle bacillus. I have never seen harmful results from reactions, but often marked improvement follows where previously the patient was not doing well. If there is a temperature of 100 degrees or over the patient is put to bed until the temperature is normal. Patients immunized with tuberculin do not develop complications of the larynx, glands or bowels, and very few relapses are noted, while patients apparently cured without tuberculin frequently relapse and develop complications. Return of the bacilli proves that the patient was not cured. Patients given specific treatment, plus hygienic treatment maintain their immunity to the tubercle bacillus and its toxin.

DISCUSSION

Dr. R. P. Daniells, Toledo: The many different dilutions of tuberculin put out by the various companies have made its use apparently so easy that it has become a dangerous thing, because not given carefully, and because the person giving it does not understand how it is being given and why, and he does not watch the patient. It is one of the most valuable aids in the treatment of tuberculosis, if given carefully. The skiagraph is another important aid in diagnosis, and shows some things absolutely impossible to learn in any other way—the healed tuberculous lesions.

Dr. John North, Toledo: The tuberculous pulse differs from every other, furnishing a means of early diagnosis. This peculiar pulse will occur two years before the case can actually be diagnosed by physical tests. If a patient has the full proportion of calcium in the body he is immune from tuberculosis. The tuberculous patient eliminates lime, he cannot assimilate it, and the things that give the best results are milk and eggs, both of which contain a large proportion of calcium salts. Put them in condition to assimilate by hydrochloric acid, and they improve. The pregnant mother has tuberculosis because she has taken the lime from her body to build up the body of the baby.

Dr. L. A. Levison, Toledo: In using the test of von Pirquet if the reaction is not at all positive, if one will wait until the next day and inject a small dose subcutaneously, there will be a reaction, even when the dose is not enough to induce a rise of temperature. This is valuable in cases where it is not advisable to use the old methods of Koch.

Dr. William E. Hover, Lima: All people who have cold hands and feet, who dread to sit in a draft, who will not eat beef steak cooked rare, and who cannot or will not take milk, should be looked on as having incipient tuberculosis and treated accordingly, whether they react to the test or not.

Dr. Oscar Berghausen, Cincinnati: In considering the primary pathology it is often found that the infection occurs from a primary bronchial lesion. It must be borne in mind that there may be a primary lesion in the kidneys, and if this is suspected, care must be taken not to set up a complication through the use of the tuberculin test.

Dr. J. P. DeWitt, Canton: The main point I wished to bring out is that patients apparently recovered from tuberculosis by the use of rest, food and fresh air, are not well and will react to tuberculin, and a great many do relapse; but patients who have in addition immunizing doses of tuberculin have a different appearance, and they do not relapse.

The Treatment of Pneumonia

Dr. James L. Tracy, Toledo, sought to emphasize the importance of studying the treatment with reference to the biology of the disease. The cells in the lungs whose functions are so directly impinged on by the diplococcus call to their aid and defense the functions of co-ordinate and interdependent cells, and from these in turn go out calls for organic functional assistance, and that functional assistance which is so promptly rendered is made up of those abnormal functional processes by whose functions is constructed the lymph dam of diplococcus infection; and the specific characteristics of the lymph dam for the diplococcus shows a prearranged preparedness of systemic integrity for resistance to that particular infection. None of the emergency processes can be absent from the general plan for systemic defense without rendering the other processes ineffective. They fit one into the other as the physiologic processes fit one another, and together these unusual organic functional processes are, biologically, as really and intelligently as defensive of systemic life as are the usualy organic functions of the body, biologically, constructive and conservative of systemic life. This being so, it is therefore wise, and hence scientific treatment of pneumonia, at the first visit, to confine the efforts at helpfulness to the patient to the furnishing of sustenance to these organs which are so excessively functionating; the treatment must be hygienic and dietetic.

The Protection of Child Life

Dr. C. O. Probst, Columbus: Human life, which means productive energy, should be regarded as the main one of our natural resources. The state could greatly extend and perfect measures that have already in a limited field proved effective, as the control of the milk supply, the education of dairymen and parents. It could place one or more honest inspectors in each county to enforce its requirements, and might have a traveling dairy exhibit along the lines of the tuberculosis exhibit. More progress would be made if no further effort were made to "teach old dogs new tricks," but attention should be devoted to the training of the school children in hygiene and sanitation and physical education. This would mean a new man in school life, a school physician; it would mean school supervision, not school inspection.

Most of the school books could be utilized to teach certain health subjects. Sums in arithmetic could deal with sanitary problems as well as interest or land measurement. In teaching geography, maps might show the relative prevalence of tuberculosis in different countries, and in history the great plagues could be recalled to show the blessings of improved sanitation and vaccination. If great deeds are to be chronicled to inspire patriotism, why should the heroes of godless wars be selected rather than the heroes of life-saving, preventive medicine, who have laid down their lives in battling against or searching for the cause of pestilential disease? If presidents,and members of congress,legislatures,councils and school boards had themselves been given such instruction, efforts for a national health department would be vastly easier of attainment. Education in matters of health should be begun with the grandparents of children to be born fifty years hence.

Three Years of Serum Therapy in Epidemic Cerebrospinal Meningitis

Dr. William S. Chase, Akron, Ohio: In the serum-treated cases, after one or two subdural injections, the cerebrospinal fluid becomes clearer. Microscopically, there appears a preponderance of intracellular meningococci and the nuclei no longer take the stain well. There is a decrease in the leucocytes in the spinal fluid and also a fall in the general leucocyte count. In the cases which react favorably, within twenty-four hours the temperature falls, frequently to normal; all symptoms of hyperesthesia are greatly reduced and the patient passes from a period of wild delirium to one of perfect quiet and complete consciousness. Subsequent exacerbations in these cases are less so severe and improvement follows other injections. It is interesting to note that the neck rigidity and the Kernig sign are usually the last symptoms to disappear, and frequently continue well into convalescence. The average duration of the disease in the serum-treated cases is about two weeks, as against five or six weeks of tedious illness in those which went on to recovery under previous methods of treatment. Complications are practically suppressed. In the cases injected early deafness is common.

The earlier the serum is given, the greater is the chance of recovery. Work done in the French epidemic last year suggests the strong probability that cases treated with the subdural injections in the early prodromal stage may be aborted. Lumbar puncture should be performed as a diagnostic measure in all suspected cases.

DISCUSSION

Dr. Zinninger, Canton: Flexner has been wise in restricting the use of the serum to men who could confirm their diagnoses by scientific methods. If there is to be improvement in the use of the serum, either it must be in its production or in the technic of its administration. One of the most interesting things to consider is whether there are different strains of the diplococcus, and Flexner is working on this question now. It is known that this is true of other cocci, and those following the methods of vaccine treatment know that an autogenous vaccine is superior in nearly all cases to that made from the stock vaccines.

Exudative Erythemas and Their Visceral Manifestations

Dr. Mark R. Brown, Cincinnati: My paper refers to those involvements of the skin characterized in one instance by serous exudate (angioneurotic or localized edema); in another by serous exudate plus hyperemia (urticaria); in a third by serous exudate plus hyperemia and hemorrhage (erythema multiforme); and in a fourth by exudation or extravasation of erythocytes (purpura). While any of these conditions may present itself alone, their not infrequent relationship with arthritis or with certain serious and well-marked visceral lesions, or both, renders the symptpom-complex interesting to internists. In different attacks in the same individuals, different manifestations or combinations may be present and give rise to varied diagnoses—Schoenlein's disease, Henoch's purpura, angioneurotic edema or urticaria—all of which may have been correct in so far as that particular attack was concerned. As to internal changes, the most important are those involving the heart, as endocarditis and pericarditis; the kidneys, as nephritis; the gastrointestinal crises, and hemorrhages. The symptom-complex then promises a number of skin lesions, a variety of internal disorders and an arthritis of varying intensity.

In five of seven cases arthritis was present, and in the two remaining arthritis had been present in previous attacks. Occasionally there is synovitis or periarticular inflammation; but one is impressed with a relationship to articular rheumatism, particularly as there was, in several instances, a preceding or coincident tonsillitis. All patients with arthritis had some fever. Sweating was not present. Eruption was present in considerable variety. In all but two there was purpura hemorrhagica, in three localized edema, in one urticaria, in one erythema nodosum, in two erythema multiforme, in one vesiculation. In several, different cutaneous manifestations occurred at the same time, in others there were different eruptions at different attacks. There were two cases of acute endocarditis, two of acute nephritis and in two others hematuria. In one there was chronic nephritis from the onset, but no blood was found. In three there were abdominal cramps, in one pleurisy with effusion, followed by dry pleurisy on the other side.

Pulmonary Manifestations of Syphilis, with Report of Cases

Drs. H. W. Dachtler and R. P. Daniells, Toledo: During the past year, in examining about ninety patients for pulmonary tuberculosis, and studying the condition of the lungs with the help of the skiagraph, most of the cases were found to be uncomplicated tuberculosis, a few were mixed infections of tuberculosis and syphilis, while six cases came under observation which proved to be uncomplicated syphilis of the lungs. The patients came or were sent because they were losing weight and had a slight fever; some had a little dry cough; all were easily fatigued, and they, or members of their families suspected beginning consumption. These six cases are reported because they suggest that a syphilitic condition occurs more frequently in the lung than is usually suspected, and because it closely resembles the early stages of pulmonary tuberculosis. In all the cases tuberculosis has been eliminated first by no reaction to 12 mg. of Koch's old tuberculin given hypodermically; and second, by no signs of tuberculosis demonstrable in the skiagraphs. Moreover, syphilitic infection has been proved either by a direct history of infection or by a history of miscarriages with other syphilitic signs and symptoms, and a rapid improvement on antisyphilitic treatment, and in one case by the Wassermann reaction. From the study of these cases, we believe that a syphilitic condition of the lungs occurs more frequently than is generally suspected, and that without doubt it is often treated for pulmonary tuberculosis.

Intravesical Operations, with Report of Cases

Dr. Charles M. Harpster, Toledo: With the cystoscope we are able to see many conditions rather than diagnose them by symptoms, such, for instance, as papillomata, sarcomata and carcinomata, foreign bodies of all sorts, ulcerations and their character, cystitis and its mode of infection, prostatic and pericystic enlargements, the condition of the ureteral orifices, activity of urinary secretion, absence of either kidney, double ureter on one side, hematuria following renal colic, tuberculosis of renal carcinoma, and various infections of kidney and bladder. In time to come the cystoscope will be used more in catheterizing the ureters, in applying suction or hyperemic treatment to bladder conditions or in drawing urine from the ureter and in making applications to diseased areas, in the removal of foreign bodies, removal of growths by snare, incision of strictured ureters or their dilatation, and many other operations and procedures. Ureteral catheterization is of service in showing the patency of the ureters, in obtaining separate urines and in finding calculi, crystals, epithelium, casts and tuberculous material and determining the competency of either kidney. With a bismuth fused catheter *x*-ray confirmation of diagnoses may be made, and the catheter may be used during gynecologic operations to prevent injury to the ureter, as is done by Olshausen and others. The Luys separator is useful for diagnostic purposes where the condition of the bladder has been previously determined by the cystoscope. Errors which may arise with either the catheter or the Luys separator are due to faulty instrumentation, reflex oliguria or polyuria caused by the instrument or the collection of urines at inappropriate times. Two factors are necessary with catheterization to give accurate quantitative results—a catheter with a terminal opening, and Albarran's method of methylene blue injection into the catheter. In prostatic enlargements of old men in whom general or spinal anesthesia are contraindicated the technic and instruments of Goldschmidt are useful. Under a 2 per cent. solution of novocain the obstruction, especially if a bar or medium projection, can be incised under the guidance of the eye. With the old Bottini instrument or the Freudenburg modification this could not be done. Multiple incisions cause contraction of the gland. One out of every four cases of prostatic hypertrophy is cancerous. This method of treatment offers hope of preventing cancerous development by relieving increased tension and pressure on the gland and decreasing the irritation from residual urine. If it will stay or prevent cancerous development in even a small number of cases in the inception of the condition its use must become a fixed proceeding in surgery.

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-sixth Annual Meeting, held in Washington, D. C., May 2-4, 1910

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Myositis Fibrosa Following Nervous Breakdown

DR. JOHN K. MITCHELL, Philadelphia: A nervous breakdown from overwork was followed by an attack of fever of unknown origin, with great prostration. Four months later a stiffness in the extensors of one thigh was noticed. A like stiffness and hardness successively appeared in muscles of other parts. This increased in degree until the patient was almost crippled. A portion of muscle excised during life exhibited widespread fibrous degeneration, the muscle fibers being in some places replaced by fibrous tissue, in others pushed aside by it. In cross-section radiating striæ, apparently of fibrous tissue, are seen. The patient improved under treatment.

Friedreich's Ataxia

DR. WILLIAM G. SPILLER, Philadelphia: In this case, in addition to the usual findings in the spinal cord, the peripheral nerves were greatly degenerated; recent degeneration detectable by the Marchi method was seen in some of the muscle fibers, and the cerebellar nuclei showed alteration of the nerve cells. Many naked axis cylinders were detected by the Bielschowsky stain in the columns of Goll, which by the Weigert hematoxylin stain appeared almost completely degenerated. Friedreich's ataxia is not a degeneration confined to the spinal cord or cerebellum, but is the result of implication of the entire central and peripheral nervous systems.

DISCUSSION

DR. E. W. TAYLOR, Boston: In one case which I studied there was a striking degeneration of the cerebellar tract and of Gower's tract. I would ask whether Dr. Spiller was able to trace this degeneration of Gower's tract into the cerebellum, and whether anything has been done toward tracing Gower's tract and the cerebellar tract toward their terminations.

DR. B. SACHS, New York: The distinction between Friedreich's ataxia and amaurotic family idiocy is interesting. In hereditary ataxia we evidently have an involvement chiefly of tracts of peripheral structures, and no doubt there is some cellular involvement as well, while amaurotic family idiocy is a purely cellular disease. Some years ago these cases were spoken of as cases of arrested development. These family diseases would not occur if there were not some vital defect in the germ plasm. That vital defect makes the organism less resistant to extraneous influences or to influences within the body than it would be if this vital defect in the germ plasm did not exist. I do not believe that any family disease can be due to an extraneous toxic or infectious agent, but an infectious agent that is formed within the body itself is conceivable, particularly if you admit that the injury done to the germ plasm in the first place makes the various structures of the body less resistant to poisons formed within the body itself.

DR. W. G. SPILLER: The Wassermann reaction was not taken, but there were no clinical manifestations of syphilis. The pathology shows no round-cell infiltration, such as is characteristic of the nervous system. Gowers' tract was not degenerated, although in many cases of Friedreich's ataxia it has been. Cellular changes are not usually found in Friedreich's ataxia, according to report. The nucleus dentatus in this case showed decided cellular changes. There were also some changes in the cortex.

Freud's Analytic Method

DR. JAMES J. PUTNAM, Boston: In so far as Freud has shown us a valuable means of studying the processes which go on unconsciously within our minds and the respects in which they lead to traits of character and temperament, it is difficult to see how any one can fail to recognize the importance of his work. Most of the criticisms have come from persons who have failed to verify his conclusions. However, the more carefully and thoroughly the method is applied, the more accurately the conclusions derived from it will be found to coincide with those laid down by Freud and others who have followed in his footsteps. It is obvious that the talents and interests of neurologists are not all of the same sort, and for those to whom the study of the mind in health and in disease appears the most important portion of the physician's work, the contributions of this relatively new field are certain to seem of marvelous promise and of immense practical importance.

DISCUSSION

DR. G. L. WALTON, Boston: One important difference between these memory pictures and those of the waking life is the inability of the dreamer to measure time and space; but the main distinction lies, perhaps, in the absence of goal ideas and of the power of control which enable us in our waking hours to guide our thoughts more or less successfully in definite channels. The associations by which these pictures are assembled will vary with the individual and be tinged by his emotional tone, but to read into them, however ingeniously, the fulfilment of desires is to strain a point, and to substitute a preconceived notion for the study of facts. To credit mere memory pictures, distorted at that, with being symbols is unduly to glorify the dream state—I should perhaps rather say unduly to debase it when the symbols are of the character which permeates the works of this author. The reproduction of a dream in detail, and its analysis, is not only baffling and valueless in my opinion, for medical practice, but may be harmful.

DR. B. SACHS, New York: I would agree with anything of Freud's if I could feel that his teachings were absolutely sound. There are several practical reasons why they do not appeal to me: the first counts least, that is, the length of time the examination takes and the smallness of the result. The most serious objection to the method is that it has had a distinct sexual taint given it. It may be of great interest to the neurologist to find out that some sexual misconception or some disagreeable sexual thought had existed in that person in early years; but, while it may be of great interest to the physician, and while it may not do a woman of 40 any harm to have her psychic analysis made as carefully as Dr. Putnam has performed it, it is my firm conviction that we do no good by taking a young woman of 14 to 20 and pushing her thought back on that one sexual mistake, not a conscious sexual mistake, that was made early in life. I cannot see that the therapeutic results have been any better, nor have they been arrived at any quicker than by the older methods.

DR. C. L. DANA, New York: My practical experience has been not only of failure, but often of disaster with Freud's method. It has often at times been most unfortunate, *and I* have *practically stopped giving any* such treatment in cases of at least the more educated, more intelligent type of patient that comes to me. In the minor cases of this class of psychoneuroses I find that by ordinary methods of treatment, education and modern therapeutics the patients get well. I always tell psychasthenic patients that they will get well, and they generally do. It must be remembered that a certain number of patients run a course, and recover, whether you do anything or not, in one or two years. There is another group of cases, more serious, which date back to early life; these are serious cases. I have not been able to do much with them. If this method will successfully help them, it will be of value, but I do not see exactly how the method could explain or help a condition which is essentially constitutional. The quickest way of getting at the inside of these cases is to do what we practically all try to do and often succeed. I take cases of this kind, put them in a private hospital and give them an intelligent nurse. I go to see them often, and send masseurs whom I know to be intelligent women or men to give them treatment, and by every process that I know of I become acquainted with their story. In two or three weeks one learns about these patients, one knows their past history, and I do not believe you can get as much by the Freud method as by our present method. I think we have much better methods than that of Freud.

Dr. L. F. Barker, Baltimore: Freud's method should be tested carefully. It is too early to say how much good will come of it, but certainly a large amount of new knowledge concerning the psychology of these patients, the psychology of life generally, is being derived from these studies. I think we should separate the method of psychoanalysis from the purely sexual idea. In my application of psychoanalysis it has been very helpful, especially in extending the anamnesis. As to psychasthenic cases, my experience with them is that they are hereditarily badly endowed people. They start badly. Most of them come from generations of neurotic people. I have in mind some cases under my care where for three generations this condition existed. This may come at any time of life, though most of them have attacks early in life.

Dr. C. K. Mills, Philadelphia: I am not in accord with Dr. Putnam's views. *The reports so far have not been altogether* satisfactory. The cures do not seem to be in greater number or better than those obtained by the old methods.

Dr. H. T. Patrick, Chicago: Dr. Putnam's method does not differ so very much from the ordinary methods of psychoanalysis. It seems to me that psychoanalysis, or whatever leads us *to get back to the definite original* cause of any phenomenon in the abnormal patient, or the beginning of what has been the series of abnormal phenomena, is a help. What I believe to be distinctly injurious is to encourage the patient to probe himself when he is by himself, without control and without the leading intelligence of his physician, into his past life *because patients* are unable to observe facts without conclusions, to observe phenomena without interpretation, and it is particularly these neurotic, poorly balanced, hypersensitive people who are constantly drawing wrong conclusions. This is distinctly dangerous, and it is that *particular part of the* Freud method with which I am at variance.

Dr. A. A. Eshner, Philadelphia: These patients are already unduly subjective and introspective, and care should be taken not to make them more so as a result of a certain form of interrogation. Herein appears to reside a *danger* entitled to serious consideration.

Dr. H. N. Moyer, Chicago: I am a disciple of Putnam rather than of Freud. Anyone who undertakes to practice Freud's analysis on his patients on their first visit to the office will soon have no patients. That is obvious. The older methods are to be adhered to for a *certain time*. As to the psychoanalysis of impotence, the physician who neglects to look *for some* prostatic trouble or stricture will probably fail. The old methods are efficient, as a rule, but there is a certain residuum of cases not relieved by ordinary methods and for whom is left this psychoanalysis. It is a *distinct, adequate,* efficient method of getting at a *few* cases that we had not succeeded with before until it was offered to us.

Dr. P. C. Knapp, Boston: There is one radical defect in Freud's general position which has not been touched on. We see almost every day cases of nervous disturbance of one sort or another due clearly and confessedly to some pronounced emotional disturbance. *The patient improves* as the emotional disturbance is put into the background and forgotten. It does not seem always to be a reasonable method of treatment in those cases which are due to a forgotten emotional disturbance to drag that once more into the field and get the patient to dwell on it. It seems to me this is the primary unreasonableness of the views of Freud. *There is a tendency to consider* the data derived from the psychoanalytic methods as being absolutely accurate, but I have not always found them so.

Dr. J. J. Putnam: There is a great deal of misunderstanding of this sexual questioning. One does not take a young unmarried girl and begin to talk about her sexual relations. It would be very extraordinary if anyone should do that. The sexual ideas are the ones that the patient himself brings out. That Freud has always contended. The persons who speak as though the sexual thought were brought out in these patients' minds have failed to recognize that they are suffering from these thoughts, and the purpose is not to dwell on sexual thoughts, but to relieve their minds from sexual thoughts which in another form are active and producing symptoms. As to the objection to the patient's probing himself, it is injurious to him to probe himself alone, and it is to prevent the patient from doing this that the patient is encouraged to probe himself before the physician; the patient probes himself alone from morning to night otherwise, and it is to make it impossible for him to do this that we use this treatment.

General Conception of Dementia Præcox

Dr. Adolf Meyer, New York: The studies of metabolism and toxic state so far furnish nothing specific or decisive in regard to dementia præcox. The neurologic and histologic data appear rather as incidental to more clearly definable functional data than with a leading rôle. The data of conduct and behavior and of reactive material of the patients have proved much more directly helpful in furnishing constructive material. According to the make-up, the same results may be reached by combinations of marked constitutional peculiarity and slight external cause, and slight overt constitutional peculiarities and marked external cause. The essential is the break of *compensation of mental (chiefly emotional and volitional)* adjustment, with more or less deficit—and in most cases with the peculiar attempts at balance and reconstruction which constitute the glaring surface-picture of the clinical description and the special mechanism of the analytical consideration. *Evidence seems to favor the postulate of a departure from* the Kraepelinian dogma. Dementia præcox is essentially unlike general paralysis and more likely the usually inevitable outcome of (1) conflicts of instincts and (2) incapacity for a harmless constructive adjustment.

Some of the Mental Mechanisms in Dementia Præcox

Dr. August Hoch, New York: In certain paranoia states, such as those described by Rüdin and Gaupp, also in a certain type of psychosis recently analyzed by Birnbaum, the content of the psychoses represents conflicts and reactions to conflicts which the individual, owing to a constitutional defect, was incapable of handling adequately. The clinical picture of dementia præcox is much more complicated and often presents apparently a disconnected array of manifestations. When it is possible to analyze these, however, it is found *that* all the experiences mean something to the patient; that certain Freud mechanisms are at work, and that these apparently disconnected symptoms are connected and related *to* definite trends. The frequency with which sexual conflicts are found in the history of such patients and the *fact that so* often sexual trends make up the content of the psychosis, point *to a* lack of sexual adaptation. Our memories are grouped, as it were, in more or less extensive and more or less circumscribed complexes or centers of attraction, *in the* formation and cohesion of which special interests take *an important* part. We can conceive of the *mind, therefore,* as made up essentially of trends of interest. In the course *of* individual development certain main tendencies of the *personality* develop which then take the lead, while other tendencies become repressed. These repressed trends exert nevertheless a marked influence on the conscious thought and activity, as Freud has shown; but in normal life they do so mainly through the fact that the energy they supply is led into profitable channels. Every trend naturally pushes toward a realization in the direction of its feelings. If this is in harmony with the main tendencies of the personality this is useful and represents the dynamic force behind our thinking and our pursuits, adapted to the environment and the given situation. If, however, trends which are not in harmony with the main tendencies of the personality and which are, therefore, under the influences of repression, no longer find an outlet in profitable channels, but assume a more or less independent dominating rôle, it is not to be supposed that the laws which govern normal mental activity should be suspended; on the contrary, we shall expect to find the same principle of the trend pushing toward its realization, while at the same time the other tendencies of the personality assert themselves in repressing influences as well as in adjustment reactions, but owing to the disturbance of balance between the usurping trend and the main tendencies of the personality, the thinking and acting is then no longer adapted to the actual situation, but appears as something strikingly out of contact with it, and is of a simpler, more crude type. This, in so far as the mental side is concerned, is what seems to take place in the cases of dementia præcox which can be analyzed the overgrowth of certain trends at the expense of the main, adapted interests of the personality.

Errors in the Diagnosis of Mental Disease

Dr. E. E. Southard, Boston: A series of 250 cases of mental disease, with *intra vitam* diagnoses by several physicians, recorded at the Danvers State Hospital daily clinics 1904-8, has been subjected to anatomic review for the sake of learning where lies the greatest difficulties in diagnosis. Ten cases (4 per cent.) remain both clinically and anatomically obscure. Seven cases (2.8 per cent.) had diagnostic doubts settled after the clinic, either *intra vitam* or postmortem. Sixty-six cases (26 per cent.) were doubtful clinically, but the correct diagnosis was obtained by one or more diagnosticians in 49 of the 66 (74 per cent. of the doubtful group). One hundred and eighty-four cases (74 per cent.) were clinically certain, and the clinical diagnoses were confirmed (or not altered) by autopsy in 163 of the 184 (89 per cent. of the unanimous group). The correct diagnosis was obtained by one or more diagnosticians in 212 cases in 250 (85 per cent.). The "correctness" of these diagnoses is subject to some reservation, (1) since within the "organic and senile dementia group" differentiation proved difficult, and (2) since anatomic "consistency" often signifies absence of characteristic lesions. The acute psychoses have been reviewed, however, bearing in mind modern views. Several alcoholic cases failed to exhibit striking brain lesions. The majority of the real diagnostic difficulties uncovered by this analysis would appear to require more intensive work in the field of clinical pathology.

The Differentiatives of Dementia Præcox and Depressed States By So-Called Biologic Blood Tests

Drs. E. C. White and S. D. W. Ludlum, Philadelphia: We seem to have been able to differentiate between dementia præcox on the one hand and melancholia on the other. Our method is based on the determination of the fixation complement of guinea-pig serum by the serum of the patient. We found in melancholia that the amount of complement absorbed was very much larger than of all other diseases studied; and also much larger than dementia *præcox*, in which disease it was approximately normal. We have tested 67 cases of various mental diseases. Thirty-seven melancholics of manic-depressive type and involutional forms have so far been decisive and characteristic in all tests. We also found that by carefully standardizing the factors in Much's test it gave a positive test only in dementia præcox. When the standardization was not done, a positive result was often obtained. The syphilitic cases, of course, can be separated by the Wassermann reaction and progress in biologic tests is making it possible to discover chemical changes in so-called functional diseases

Clinical Significance of the Urine in "Nervousness"

Dr. Edward B. Angell, Rochester, N. Y.: I have noted for a number of years in examination of urine of patients afflicted with "nervousness" that in making the Heller nitric acid ring test there is formed at the junction of the urine and acid a pigment ring which varies in color from bright red to dark brown. Of the chemical nature of this ring I am unable to give any account, but believe I am safe in saying that it probably consists of some of the organic nitrogen compounds. It is a reaction entirely different from that given by indican or bile, although these substances may be associated. A similar reaction occurs in cases of exophthalmic goiter and in persons taking iodid of potash. That it is associated with excessive nitrogen elimination is shown by the fact that it is almost never present on a non-proteid diet. The patients who show this reaction are those who complain of headache, backache, restlessness, sleeplessness, numbness and a general depressed feeling, associated with other symptoms generally classed as nervous. If such patients are put on a diet low in nitrogen, lead an open-air life and are given salicylates and alkalies to aid elimination, they will be relieved of their symptoms and at the same time this reaction of the urine will disappear. From two weeks to two months are required for a cure. In obstinate cases a year may be required.

Radiculitis of Cervical and Brachial Plexuses, Secondary to Pachymeningitis Externa Cervicalis-Gummatosa

Dr. F. W. Langdon, Cincinnati: A white man of 33, married, occupation superintending out-door work, grading, etc., gradually developed a paralysis of tetraplegic distribution, beginning in left forearm and hand, and extending in the course of 14 months so as to render useless all four extremities. The upper extremities were flaccid, the lower spastic with plus knee-jerks and Babinski sign. The paralysis was preceded by sharp pains in left neck and face. Neck movements were almost abolished—not by paralysis of muscles, but by articular obstruction. Numbness and tingling were extensively distributed over both arms and legs. A smooth firm, not bony, boss could be felt in the left side of the neck between the third and fourth cervical vertebræ. The patient was unable to walk without constant danger of falling and was unable to grasp a pencil with either hand. Vision was good; pupillary changes slight; ocular movements free, with slight nystagmoid jerking on extreme lateral excursion. Some dysphagia at times. No voice or tongue changes. Sensory changes slight, excepting the initial pain in the left neck and face which was not prominent after the first month. There was a hand-size area of tactile anesthesia over the left thorax and one twice as large over the right abdomen, where temperature sense was disturbed or confused. Diagnosis was made of an exudate (gumma) situated between cervical dura and periosteum enclosing the nerve roots and compressing the lateral columns of cord; a radiculitis and compression myelitis, secondary to pachymeningitis externa. Under mercury by inunction and supporting measures steady improvement occurred and patient was discharged at his own request in five and one-half months, having gained 25 pounds in flesh and the use of all extremities. Three months later he resumed his regular occupation. A year later he is able-bodied, can use pick and shovel well whenever necessary and attends to his full duties in every respect.

The Ocular Changes in General Paresis and Tabes Dorsalis

Dr. Edward D. Fisher, New York: The examination of fifty general paretics confirms my former statement that optic atrophy and ocular muscle paralysis are comparatively rare in general paresis as compared to their frequency in tabes; nor, again, are the muscular paralyses permanent, as a rule. Clinically, this would seem to mark out the two diseases as distinct. In the 50 cases only 2 had optic atrophy and none any third nerve lesion outside of the Argyll-Robertson pupil. In the cerebral type of general paresis, that is, those cases of exaggerated reflexes, the Argyll-Robertson pupil is often absent in the early stages. Among over 200 cases of general paresis only one presented a history of tabes extending over a number of years preceding the mental symptoms with lightning pains, crises and ataxia.

Lenticular Zone and Anarthria

Dr. Alfred Gordon, Philadelphia: A case which I saw shows that Marie's contention in regard to aphasia cannot be entirely confirmed by the pathologic findings. The destruction of the lenticulo-caudate nuclei was complete, and yet the patient did not present the least indication of anarthria or dysarthria. The speech was clear and distinct. The patient did, however, present a partial word-blindness and partial verbal amnesia, all symptoms of sensory aphasia. The few symptoms of the latter correspond to Marie's ideas. The conclusion to which my observation leads me is that while the so-called lenticular zone of Marie may play a certain rôle in sensory aphasia, its rôle is not considerable. As to its being a center for anarthria, the present case proves that its destruction does not interfere with phonation and articulation of words.

Medicolegal

Care, Skill and Diligence Required of Physicians and Surgeons—Malpractice Suit Brought Four Years After Alleged Loss of Eye by Phenol—Burden of Proof and Presumption

The Supreme Court of Alabama says, in Shelton vs. Haeclip (51 So. R. 937), that in McDonald vs. Harris, 131 Ala. 359, the legal measure of care, skill and diligence of physicians and surgeons is thus defined: "The reasonable and ordinary care, skill and diligence which the law requires of physicians and surgeons is such as physicans and surgeons in the same general neighborhood, in the same general line of practice, ordinarily have and exercise in a like case." It was for the alleged breach of this duty that this action was instituted practically four years after the wrong complained of was alleged to have been inflicted. The damnifying result was averred to have been the loss of the eye of the then 11 months old child, Velma Haeclip.

These facts were undisputed on the record: That Velma had been affected with chickenpox and nausea, and the right eye (the one destroyed) was inflamed, ulcerated in the external corner, had scabs on it, and was infected with pus and "septic poison." That the defendant Shelton was called professionally to see her, mainly, it appeared, for the eruption and the nausea. That he examined the right eye, and stated that he would give a prescription for its treatment, and at the same time instructed the parent to keep the organ cleaned with the frequent application of warm boiled water. That what was received as this prescription was used by dropping three or four drops, from a teaspoon, into the eye after lifting the eyelid. That this application was made in the afternoon about 2 o'clock. That the child at once gave evidence of being in great pain in that eye, and, with its hands, rubbed off the scabs and introduced the poisoning pus into the eye. That the sight of the eye was destroyed when examined on the succeeding morning, the destruction being accomplished by the thickening of the tissue over the sight of the eye.

The evident theory of the plaintiff on the trial was that the liquid introduced into the eye contained phenol (carbolic acid), and that the destruction of the sight resulted from that. It was obvious that, if the loss of sight was due to disease, the defendant did not breach his duty, unless in the treatment thereof he failed to measure up to the standard stated before; and it was equally as obvious that the plaintiff's theory excluded any other means or omission leading to that breach of duty in the premises except that rested on the use of phenol in the prescription written by the defendant in the treatment of the eye. A druggist and the defendant both testified that the prescription written by the defendant, was prepared by the druggist, and not by the defendant, and that in it there was no ingredient of phenol. Another physician, who saw the eye the next day, testified that the eye nor lid nor face gave any evidence of having been burned with phenol, and that in his opinion the loss of sight was due to the disease. There were some tendencies in the evidence to the effect that the preparation contained phenol, the chief of which were afforded by the testimony of two witnesses that the contents of the bottle bore an odor of carbolic acid, and that the sediment in the bottom of the bottle was similar to that made by an excess over a solution of phenol.

The burden of proof in cases of this character is on the plaintiff to show that the defendant's care, skill, or diligence in the given case was not that required, as stated, of physicans and surgeons; and it should be added that there is no presumption of negligence or want of skill from the failure to cure.

It is evident from this record that the controlling issue was whether the preparation applied to the eye was that prescribed by the defendant. As indicated, there was some evidence tending to show that the preparation was that prescribed by the defendant, and that it contained phenol. It consisted of the testimony of a Mrs. Daniel, the "next friend," by whom the suit was instituted, that the defendant brought the bottle to the house where the child was, and that out of this bottle, the liquid was put into the eye. It must be conceded, however, that there was a conflict in respect of the issue stated; and, in the light of all the evidence, the court entertains the opinion that the weight of evidence and the probabilities of the truth of that tending to fix liability on the defendant were so strongly against the verdict rendered in the plaintiff's favor as to carry conviction that it was wrong and unjust.

In the first place, the long period of time elapsing between the injury and the institution of the action, in connection with the undisputed fact that the defendant was subsequently often called professionally to treat members of Mrs. Daniel's family, were circumstances impossible to be ignored in determining the weight to be given to Mrs. Daniel's testimony. In the second place, the testimony of a physician who was called as a witness might be taken at the limit of its probative value, and yet, when boiled down, it amounted to nothing more than that the injury "might"—a term, as employed, no stronger than possibly—have been produced by phenol, or "might" (i. e., possibly) have resulted from a virulent form of conjunctivitus. There was for the plaintiff no evidence that the eyeball or its membranes were burned by a caustic. There was a total absence of proof that any sloughing occurred. It is incredible on the evidence adduced as to the effect of phenol that the iris could be altered in color from brown to white by the application of phenol and at the same time avoid sloughing of the cauterized membrane.

The original prescription was before the court. Phenol was not one of its named elements. The other physician first mentioned, who saw the eye the next day, was positive that there was no evidence of cauterization about the eye or face. Two witnesses said there was an odor of phenol, and one that there was a cloudy sediment in the bottle. But the inevitable effect of phenol on membranes and the positive statement of the other physician, apparently disinterested, that there was no cauterization and no sloughing, and the testimony of the druggist and the defendant, all in connection with the long lapse of time between the injury and the commencement of the action and the continuance of the defendant in the professional service of the household, compel the conclusion that phenol did not destroy the child's sight.

Insane Delusions and Unreasonable Habitual Prejudice

The Supreme Court of Illinois says, in the will case of Snell vs. Weldon (90 N. E. R. 1061), that, in analyzing the legal conception of an insane delusion, it is necessary to keep in mind that the ultimate and essential thing to be established is that the testator had, at the time the will or testament was executed, such an aberration as indicates an unsound or deranged condition of the mental faculties, as distinguished from the mere belief in the existence or non-existence of certain supposed facts based on some sort of evidence. A belief which results from a process of reasoning from evidence, however imperfect the process may be or illogical the conclusion, is not an insane delusion. If, under the facts shown, the court is able to see how a rational person might have believed all that the testator believed and still be in the possession of all his senses, an insane delusion is not established. Where a testator has some actual grounds for the belief which he has, though regarded by others as wholly insufficient, the mere misapprehension of the facts or unreasonable and extravagant conclusions drawn therefrom do not establish the existence of such a delusion as will invalidate his will.

Furthermore, while it is true, as said by this court in the former opinion in this case, that "injustice, unfairness, prejudice, or anger without a reasonable cause does not disqualify any person from making a valid will," still, where these manifestations habitually appear in respect to the same subject without any reason, and are adhered to after their falsity is demonstrated, they become strong and satisfactory evidence of a mental derangement, and evidence of their existence, without any cause, in respect to one so nearly related as to be naturally entitled to the testator's bounty, is entitled to greater weight than it would be if the parties were not so closely related.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

July 2

1 Surgery as a Science and Art in the City of New York in the Middle of the Last Century. S. Smith, New York.
2 Superficial and Deep Sensory Disturbances in Their Relation to Astereognosis and Asymbolia. A. Gordon, Philadelphia.
3 Esophageal Diverticula. E. Mayer, New York.
4 Nasal Osteoma. J. H. Guntzer, New York.
5 *The Treatment of Chorea with Large Doses of Arsenic. G. B. Hassin and A. S. Hershfield, Chicago.
6 Abstraction of Calcium Salts from the Mother's Blood by the Fetus a Cause of Large White Kidney in the Former. J. G. Drennan, Chicago.
7 Precautions in Laboratory and Morgue that Lessen the Danger when Dealing with Plague. D. H. Currie, Honolulu, H. I.

5. **Treatment of Chorea With Arsenic.**—The authors have employed the Comby-Filatov method with success in four cases. No serious complications occurred, except vomiting in one case and edema of the eyelids and herpes in another. Hassin and Hershfield conclude that arsenious acid in the solution 1:1000 given in smaller doses than advocated by Comby are safer than Fowler's solution. This can be seen from one of these cases where a boy, 8 years of age, could safely bear 5 teaspoonfuls of 1:1000 solution of arsenious acid, i. e., grain 1/3 of arsenious acid, but showed symptoms of intolerance from 9 drops of Fowler's solution and this after his system had been somewhat used to the drug. The time of treatment is considerably shortened by using the acid; the improvement sets in very early, within a few days of treatment, and it is due, exclusively, to the use of arsenic. The authors do not consider it excusable to deprive chorea patients of the benefits of arsenical treatment on account of possible complications. The by-effects of arsenical treatment can be greatly mitigated by using arsenious acid and can be avoided if attention be paid to the condition of the gastro-intestinal and renal apparatuses.

Boston Medical and Surgical Journal

June 30

8 Method of Treatment in Infantile Paralysis. E. H. Bradford, R. W. Lovett, E. G. Brackett, A. Thorndike, R. Soutter, R. Osgood, Boston, Mass.
9 *Elimination of Hexamethylenamin by the Mucous Membrane of the Middle-Ear and Nasal Sinuses. W. M. Barton, Washington, D. C.

9. A preliminary note on this subject appeared in THE JOURNAL, March 12, 1910, p. 871.

New York Medical Journal

July 2

10 The Trend of Medical Education in the United States. W. C. Borden, Washington, D. C.
11 Torsion of the Omentum. J. W. Markoe, New York.
12 *High-Frequency Currents in the Treatment of Arteriosclerosis. T. E. Satterthwaite, New York.
13 The Cystoscope as an Aid to Diagnosis. S. E. Tracy, Philadelphia.
14 The Prostatic Urethra. J. A. Hawkins, Pittsburg, Pa.
15 Erroneous Deductions from Physiologic Experimentation with Ergot. A. T. Livingston, Jamestown, N. Y.
16 The Stimulatory Action of the Oosperm in the Uterus. J. Oliver, London, Eng.
17 Tuberculosis. E. C. Schroeder, Bethesda, Md.
18 *A Method of Examining Sputa for Tubercle Bacilli. E. H. Goodman, Philadelphia.

12. Abstracted in THE JOURNAL, May 28, 1910, p. 1811.

18. **Examination of Sputum for Tubercle Bacilli.**—The solution which Goodman uses is really Labarraque's solution, except that instead of 75 grams chlorinated lime, 150 grams are used, and in addition a solution of 3 per cent. sodium hydroxid. It is to the action of the chlorin and the sodium that its dissolving properties are ascribed. To the sputum is added an equal amount of the solution. The whole is thoroughly mixed with a glass rod, and put on a boiling water bath. After the sputum has become a homogeneous mass (from fifteen to twenty minutes) it is removed from the water bath, a small amount of water added, and the whole is centrifugated for five minutes in an electrically driven centrifuge. If more than one tube is used the supernatant fluid is poured off and the sediments combined, washed in the centrifuge with physiologic salt solution for three to five minutes, the excess poured off, and the residue smeared on a slip by means of a platinum loop. The specimens were stained in the usual manner. Apart from avoiding the necessity of using a patented substance the new solution has the advantage of being about one-fourth as expensive as the former. It is easily made in any laboratory, and where facilities do not permit of this, it may be made by a druggist.

Kentucky Medical Journal, Bowling Green

June 1

19 Tuberculosis of the Bladder. J. D. Mutters, Rush.
20 The Management of Normal Labor Cases. J. H. Hester, Mumfordsville.
21 Tonsillitis. S. J. Smock, Glasgow.
22 Acute Peritonitis. W. H. Yelton, Butler.
23 La Grippe. J. V. Young, Monticello.
24 Tuberculosis (Etiology). O. W. Brown, Lenoxburg.
25 Morphin—Its Uses and Abuses. R. E. Griffin, Owensboro.
26 Pyorrhea Alveolaris. C. C. Kemper, Owentown.
27 When Is Abortion Necessary? J. J. Rodman, Owensboro.
28 Perforation from Typhoid Fever. E. A. Stevens, Mayfield.
29 The Phenomena of Malaria. W. Blair, Glensfork.
30 Head Injuries. D. C. Donan, Horse Cave.
31 Practical [illegible] P. F. Barbour, Louisville.
32 [illegible] of t[illegible] Medical Association. W. L. Mosby, [illegible]
33 Cerebrospinal Meningitis. S. M. Hopkins, Demossville.
34 Influenza or Lagrippe. C. Kendall, Morgan.
35 Acute Infantile Paralysis. W. A. McKinney, Falmouth.
36 Effects of Alcohol from a Scientific Standpoint. P. Ligon, Henderson
37 Chloroform as a Dressing in Minor Surgery. H. H. Stallard, Hellier
38 Empyema. A. P. Dowden, Eminence.
39 Why Maintain a County Medical Society? O. Allen, Cromwell.
40 Hookworm Disease. J. B. Jackson, Hopkinsville.

Medical Fortnightly, St. Louis

June 10

42 The Clinical Picture of Korsakoff's Disease Now and in 1886. S. G. Burnett, Kansas City.
43 Practical Results in the Surgery of Prostatic Obstruction: Presentation of Patients and Specimens. B. Lewis, St. Louis.

New Orleans Medical and Surgical Journal

June

44 The Problem of Eugenics. M. A. Aldrich, New Orleans.
45 Expert Medical Evidence at One Dollar Per Day. T. W. Schaefer and A. M. Wilson, Kansas City.
46 Uncinaria (or Hookworm Disease). D. W. Kelly, Winnfield, La.
47 Bacteriology and Pathology of Influenza. F. B. Gurd, New Orleans.
48 Gastrointestinal Grippe. S. K. Simon, New Orleans.

Journal Michigan State Medical Society, Battle Creek

June

49 The Relation of Gall-stones to Jaundice. A. McLean, Detroit.
50 Chronic Toxemias Arising from the Intestinal Tract. B. R. Corbus, Grand Rapids.
51 Injuries and Repairs of the Pelvic Floor. H. B. Garner, Traverse City, Mich.
52 Aneurism of the Descending Thoracic Aorta. J. Flinterman, Detroit.
53 Tonsillectomy. J. F. Byington, Battle Creek.
54 Accidental Secondary Infection of the Free Peritoneal Cavity. T. A. McGraw, Detroit.

July

55* An Interesting Case of Retention of Foreign Body Below the Orbit. V. A. Chapman, Muskegon, Mich.
56 The Treatment of Acute Nephritis. E. Boise, Grand Rapids.
57 A Plea for Better Attention to the Newborn Baby. I. L. Polozker, Detroit.
58 Vasostomy and Vasectomy in Acute and Chronic Gonorrheal Vesiculitis and Epididymitis. F. B. Marshall, Muskegon, Mich.

59 Serodiagnosis of Syphilis and Its Clinical Value. H. R. Varney, Detroit.
60 Hydatidiform Mole. G. Kamperman, Ann Arbor, Mich.
61 *A New Gateway to Certain Operative Procedures in the Abdominal Cavity. S. C. Graves, Grand Rapids, Mich.
62 Appendicitis. W. J. Herrington, Bad Axe, Mich.

55. **Retention of Foreign Body Below Orbit.**—In adjusting the sight of a Remington rifle, the patient used an enormous charge, about 90 grains of smokeless powder. When the rifle was discharged, it burst open at the breach. The patient received an injury of the face just below the left eye. There was a large gaping wound. It was cleansed and probed by a competent surgeon who decided that there was no foreign body present. The wound was closed and dressed and went on to uneventful recovery. Soon after this the patient began to have what he called a bad catarrhal discharge from the nose. This discharge also would drop into his throat from the nasopharynx. At times it would have a bad odor. Six weeks ago the old wound under the left eye broke open and has been discharging foul pus freely ever since. For years the patient has had double vision. The double vision used to be vertical; now it is horizontal and is worse lately. Ophthalmoscopic examination reveals a congested condition of the retinal veins. The appearance of the nerve head simulates optic neuritis. The general appearance is that of pressure on the optic nerve. The anterior wall of the antrum was freely removed. Far back in the antrum high up, and embedded in the posterior wall was found a foreign body. The tissues around about this were black. On cleaning away the debris the foreign body proved to be a large piece of the steel frame which confines the lock and mechanism of the rifle.

The end of this piece of steel which was deepest embedded was ragged and corroded with rust. The upper edge of the distal end was curved upward and was behind the eyeball. It was necessary, in extracting the steel, to raise the proximal end and depress the distal end in order that it could be extracted without injuring the eyeball.

The floor of the orbit was gone and the soft tissues of the orbit rested on the steel. This steel had penetrated so deeply that the distal end was lodged in the sphenoid bone and had almost entered the cranial cavity. It weighed exactly one ounce.

61. **New Abdominal Gateway.**—Graves makes an incision along the center of the rectus through integument, fascia and the anterior layer of the sheath; then the muscle is displaced outwardly and the incision deepened behind the normal center of the muscle through the remaining structures of the wall, viz., the posterior layer of the sheath, the transversalis fascia, the preperitoneal fat and the peritoneum, or the three latter in the absence of the first. Closure axiomatically is the reverse of the preceding.

Bulletin Johns Hopkins Hospital, Baltimore

June

63 Sir Charles Bell. E. R. Corson, Savannah, Ga.
64 A Special Function Discovered in a Glandular Structure Hitherto Supposed to Form a Part of the Prostate Gland in Rats and Guinea-pigs. G. Walker, Baltimore.
65 The Nature of the Secretion of the Vesiculæ Seminales and of an Adjacent Glandular Structure in the Rat and Guinea-pig; Special Reference to the Occurrence of Histone in the Former. G. Walker, Baltimore.

Journal Delaware State Medical Society, Wilmington

June

66 The X-ray Treatment of Carcinoma. W. S. Newcomet, Philadelphia.

Surgery, Gynecology and Obstetrics, Chicago

June

67 Joint Tuberculosis. L. W. Ely, New York.
68 Artificial Respiration. G. E. Fell, Buffalo.
69 Fractures of Pathologic Bones (Osteopsathyrosis) and Their Treatment. G. Beck, Chicago.
70 *The Increase of Cancer. W. B. Coley, New York.
71 The Value o [illegible] Ureteric Catheter in the Diagnosis of [illegible] f the Urinary Organs. H. L. Kretschmer, Chicago.
72 Postoperative Intestinal Obstruction. G. Woolsey, New York.
73 *Double Distal Ligation of the Common Carotid and Subclavian Arteries at One Séance for Innominate Aneurism. J. C. DaCosta, Philadelphia.
74 Intestinal Anastomosis. A. E. Benjamin, Minneapolis.
75 Sarcoma of Bone. G. Barling, Birmingham, England.
76 *New Operation for Prominent Ears Based on the Anatomy of the Deformity. W. H. Luckett, New York City.
77 Anomalous Kidney (Nephrectomy). B. M. Ricketts, Cincinnati, Ohio.
78 Venereal Papillomata. H. A. Moffat, Cape Town, South Africa.
79 *A Useful Stitch for Overlapping Fascia in the Closure of Abdominal Wounds. C. C. Norris, Philadelphia.
80 The Tuberculin Blister Reaction. H. de C. Woodcock, Leeds, Eng.

70. **Increase of Cancer.**—A great mass of evidence, based on vital statistics, shows a well-marked and steady increase in cancer in practically every civilized country. Attempts to explain away this increase as an apparent and not real increase are far from convincing. Without any further increase the present death-rate from cancer is appalling. Furthermore, the actual death-rate from cancer is much higher than the known rate by reason of the fact that in many cases of patients dying from internal metastases the strong prejudice of the relatives against the name of cancer is respected by the family physician, and some secondary cause of death appears in the certificate, instead of the primary cause, cancer. Deaths from cancer registration area in the United States for 1907 were 30,514 or 1,494 more than in 1906, and a rate of 73.1 in 1907 compared with 70.8 in 1906. Estimated deaths from cancer in the United States for 1907 were 63,508. For the year 1908, 33,465 deaths from this disease were returned, and the death rate was 74.3 per 100,000 of population, as compared with 30,514 deaths and a death rate of 73.1 for 1907.

A careful study of the whole subject shows the increase to be a general one and not limited to a few parts of the body. In other words intra-abdominal or inaccessible cancer, which would be the type most likely to be affected by improved methods of diagnosis, shows even less relative increase than external cancer. In 1868 the death-rate for cancer of the stomach per 1,000,000 living, 35 years and upward, was 283.65 for males and 193.45 for females. In 1888 the rate had increased to 346.15 for males and 277.79 for females, making an increase of 22 per cent. for males and 44 per cent. for females; but in this particular period the death-rate of cancer in general had increased 50 per cent. The greater death-rate of malignant disease in women is due to the large number of cases which occur in the breast and the uterus. In all other localities the liability in the male is much greater than in the female. Cancer has already increased to such an extent that at the present time it causes more deaths among women than tuberculosis, in 1905 the rate being 100 cancer deaths to 94 from tuberculosis. Even taking men and women together, and at all ages, the death-rate from cancer is rapidly approaching that of tuberculosis. From 1851 to 1860 the death-rate per 1,000,000 living was 317 for cancer, 2,676 for phthisis, and 807 for other tuberculous disease; while from 1891 to 1900 the rate was 754 for cancer, 1,391 for phthisis, and 619 for tuberculous diseases.

A careful analysis of the statistics of cancer that are obtainable at the present time forces one to the conclusion that there is a constant and considerable increase in the number of people afflicted with cancer in all civilized countries.

73. **Ligation for Innominate Aneurism.**—DaCosta reports two cases in which this procedure was carried out. One patient is alive and well two and a half years after operation, the other died from some unknown cause three years after the operation.

76. **New Operation for Prominent Ears.**—The operation described by Luckett is for the purpose of reconstructing the fold or truss of the cartilage recognized as the antihelix in ears turned forward, and the same principle is applicable for the reconstruction of the superior crux of the antihelix for the so-called drooping ears, or of both together when necessary. A crescentic incision is made through the integument opposite to the line of the intended new or reconstructed antihelix. The inscribed integument is removed; the edges of the skin are now dissected free from the cartilage and retracted. A similar crescentic segment is removed from the cartilage. The skin and the cartilage are now sutured separately, and it is the method of suturing the cartilage that is emphasized. The cartilage suture is passed from the cranial side from within out and back again, care being taken not to perforate the skin on the external surface, then crossed over the excised portion and passed on the other side from within out and back again as a Lembert suture, in such a manner that when the suture is

drawn tight and tied, not the edges but the sides or flat surfaces of the cartilage will be in apposition. The edges have been turned forward or outward to form the antihelix and at the same time the helix is set closer to the cranium, thus diminishing the cephaloauricular angle. Four or five interrupted sutures are usually enough for the cartilage. The skin is sutured with horsehair. The greatest care must be exercised in asepsis and in the hemostasis. The width of the crescentic segment of the cartilage to be removed depends on the size of the ear, and the thickness of the cartilage.

79. Closure of Abdominal Wounds.—The stitch Norris makes is a quadrilateral one and no matter how tightly it is tied two borders of the quadrangle are unconstricted. A comparatively large area of fascia is brought into apposition and this not only produces firm union but lessens the number of stitches required. As a moderate amount of fascia is taken up with each passage of the needle, and as the stitch is, as it were, a double one, tearing out is extremely unlikely. When the stitch is tied it should form a square each side of which measures about one-fourth of an inch.

Mississippi Medical Monthly, Vicksburg

June

81 Medical Legislation. D. W. Jones, Brookhaven.
82 *Inevitable Abortion. F. J. Underwood, Nettleton.
83 *The Duty of the Family Physician as an Obstetrician. W. L. Little, Wesson.
84 *A Plea for Asepsis in Labor. R. M. Boyd, Houston.
85 *Care of the Expectant Mother. J. W. Cooper, Newton.

82 to 85.—Abstracted in THE JOURNAL, May 7, 1910, pp. 1568, 1569.

American Journal of Surgery, New York

June

86 A Modified Technic for the Combined Operation of Extirpation of the Rectum. J. P. Tuttle, New York.
87 The Treatment of Placenta Prævia, Based on the Study of 42 Cases. A. A. Hussey, Brooklyn.
88 Tuberculosis of the Fallopian Tubes as an Etiologic Factor in Extrauterine Pregnancy. A. M. Taylor, San Francisco.
89 The Removal of Tonsils. N. L. Wilson, Elizabeth, N. J.
90 Surgical Significance of Nystagmus and Vertigo. P. Fridenberg, New York.
91 Perforation in Typhoid Fever. F. E. Dubois, Plainfield, N. J.
92 Gastrocolic Fistula Due to Carcinoma: Operation. W. H. Axtell, Bellingham.

Journal Indiana State Medical Association, Fort Wayne

June

93 The Action of the Heart Valves. W. J. Moenkhaus, Bloomington.
94 Condition of the Heart Muscle and Vascular System in Various Heart Lesions. R. H. Ritter, Indianapolis.
95 Types of Myocardial Lesions. A. C. Kimberlin, Indianapolis.
96 *New Method of Tying Off the Umbilical Cord. C. J. Rothschild, Fort Wayne.
97 Inflammation of the Seminal Vesicles. J. N. Baughman, Evansville.
98 The Value of the Leucocyte Count as Shown by the Analysis of 300 Miscellaneous Counts. B. W. Rhamy, Fort Wayne.
99 Sketches of the Medical History of Indiana (continued). G. W. H. Kemper, Muncie.
100 *New Means for Diagnosis and Treatment of Diseases of the Sigmoid and Rectum. F. W. Foxworthy, Indianapolis.
101 The Relation of Pelvic Inflammation to Stricture of the Rectum. B. Van Sweringen, Fort Wayne.
102 Why Is the Country Doctor? C. C. DuBois, Warsaw.

96. A New Method of Tying Off Umbilical Cord.—A strip of pure para rubber 7 cm. long, 3 by 3 mm. in cross section, is drawn through a small aluminium ring 7 mm. in diameter, so that a loop 2 cm. long with two free ends is obtained. The one end has a knot fast against the ring and is 7 mm. long, the other end is about 2 cm. long. This constitutes the entire apparatus used by Rothschild. He takes a loop of cord about 5 cm. distal to the umbilicus, places the rubber ligature over it, draws slightly on the end, cuts through the loop, draws the placental end of the cord out, and ties it off as usual. The umbilical end of the cord then has the ligature over it. The ligature is adjusted so that 1½ cm. is on either side of it, then it is drawn tight and remains until the cord "drops off." He has tried it on about 100 cases and with good results. There was no after-bleeding and the cord dropped off normally. It is easy of application, the force exerted is continuous, bleeding cannot take place (it is especially valuable in hemophilia), and costs only a few cents.

100. Diagnosis of Diseases of Sigmoid and Rectum.—Foxworthy describes a specially devised table which he uses for this work. It can be thrown into positions which make possible the proper examination and treatment of these special diseases.

Military Surgeon, Washington, D. C.

June

103 Personal Experience During t[illegible] War, Showing the Disadvantages of [illegible] Civilian Physicians for Military Ser[illegible] ith Some Suggestions. C. B. G. de N[illegible]
104 Field Service Hygiene. R. Sn[illegible]
105 Hookworm Disease and Pella[illegible] S. Army.
106 A Visit to India. H. C. Pillsbury, U. S. Army.
107 Intestinal Parasites in Scout Companies. W. R. Eastman, U. S. Army.
108 The Gastrodiscus Hominis in the Philippines: Introductory Helminthologic Comment. A. D. Tuttle, U. S. Army.

Buffalo Medical Journal

June

109 A Present Menace to Education. P. W. Van Peyma, Buffalo.
110 Toxins and the Liver. W. M. Brown, Rochester, N. Y.
111 Treatment of Spreading of Diffuse Peritonitis. F. W. McGuire, Buffalo.
112 The Vagaries of Fibromyomatous Tumors. J. F. W. Ross, Toronto.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

June

113 Cerebral Localization from the Point of View of Function and Symptoms. M. Prince, Boston.
114* The Sensory Function Attributed to the Seventh Nerve. C. K. Mills, Philadelphia.

114. Sensory Functions of Seventh Nerve.—Mills summarizes his paper as follows: 1. If by the seventh nerve is meant that nerve trunk which arises in the pons from the lower and upper facial nuclei, this nerve is purely motor. 2. It is doubtful whether nerves whose functions are concerned with the pressure and postural senses are conveyed in the branches and trunk of the motor facial. 3. The afferent systems for epicritic and protopathic sensibility are not represented in the seventh nerve. 4. The geniculate ganglion is the homologue of the dorsal spinal ganglia. 5. If the geniculate ganglion, the intermediary nerve of Wrisberg, and the chorda tympani are considered part of the facial or seventh nerve, then this nerve may be regarded as partly sensory, having functions chiefly gustatory. 6. Nerve fibers concerned with the transmission of gustatory impulses proceed from their origin in the geniculate ganglion to their distribution by way of the great superficial petrosal nerve and the chorda tympani. The destination of the former nerve is the soft palate, where its fibers terminate in taste buds, and of the latter nerve the taste buds in the anterior two-thirds of the tongue with the exception of its tip. 7. Evidence is lacking that in the facial trunk proper, in the intermediary nerve of Wrisberg, the great superficial petrosal or the chorda tympani, are nerves of common sensibility, although some observations would seem to indicate that the anterior part of the tongue and possibly a very small strip of the auricle have a vestigial supply of this sort. 8. Herpes does not originate from inflammation of nerves which are not concerned with cutaneous or membranous sensibility. 9. Limited inflammation of the geniculate ganglion may in rare cases occur, producing a syndrome whose factors are loss or perversion of taste and vasodilator and secretory phenomena. 10. If the geniculate ganglion is the seat of inflammation, adjoining parts such as the facial nerve proper, and the eighth nerve may be involved by pressure or extension, thus giving rise to peripheral facial paralysis and to acoustic phenomena and phenomena of equilibration and of orientation, vasodilator and secretory symptoms, or to some of these symptoms. 11. The cases of herpetic inflammation—cervico-occipital, auricular and facial—which have been observed in connection with facial paralysis, or facial paralysis and acoustic symptoms, are best explained on the supposition of an involvement of ganglia other than the geniculate.

Maryland Medical Journal, Baltimore

June

115 Professional Significance of the Midwife and Optometry Bills Passed by the Recent Legislature of Maryland. H. Woods, Baltimore.
116 Care and Treatment of Epileptic Insane. J. C. Clark, Baltimore.
117 Climatic, Soil and General Conditions in Maryland with Reference to Hookworm Disease. M. L. Price, Baltimore.
118 Differential Leucocyte Count as a Diagnostic Aid. S. Cherry, Baltimore.
119 Genealogic Trees of Epileptic Families. L. A. Kennedy, A. V. Cooper and F. W. Gould, Baltimore.

Interstate Medical Journal, St. Louis

June

120 The Medical Profession in Relation to Preventive Medicine. L. Flick, Philadelphia.
121 The Cancer Problem. L. Loeb, Philadelphia.
122 Cases Simulating Abscess of the Liver. G. Dock, New Orleans.
123 Etiology and Diagnosis of Chronic Myocarditis. R. H. Babcock, Chicago.
124 Treatment of Chronic Myocarditis. A. R. Elliott, Chicago.
125 Vaccination of Infants and Young Children. J. R. Snyder, Birmingham, Ala.
126 The Cause and Cure of Inguinal Hernia. H. O. Marcy, Boston.
127 Fulguration and Its Results Compared with Those of Other Methods of Cancer Therapy. Dr. de Keating-Hart, Paris, France.
128 A Useful Mild Caustic: Its Employment in Cancer and Affections of the Cornea. A. E. Ewing, St. Louis.

Journal of Biological Chemistry, Baltimore

June

129 *A New Method for the Determination of Fat and Fatty Acids in Feces. O. Folin and A. H. Wentworth, Boston.
130 Carbohydrate Esters of the Higher Fatty Acids. W. R. Bloor, Boston.
131 The Production of Volatile Fatty Acids and Esters in Cheddar Cheese and Their Relation to the Development of Flavor. S. K. Suzuki, E. G. Hastings and E. B. Hart, Madison, Wis.
132 Method for the Determination of Sodium Iodid in Animal Tissues. P. J. Hanzlik, Cleveland, Ohio.
133 *Alkaptonuria. A. Ravold and W. H. Warren, St. Louis, Mo.
134 Phosphorus in Beef Animals. C. K. Francis and P. F. Trowbridge, Columbia, Mo.
135 New Form of Extraction Apparatus. C. W. Greene.

129. **Determination of Fat and Fatty Acids.**—Folin and Wentworth determine the fatty acids after extraction by ethereal hydrochloric acid solution, purification of this extract by solution in petroleum ether, and dissolving the residue left after evaporation of ether in benzol, by titration with sodium alcholate, using phenolphthalein as an indicator.

133. **Alkaptonuria.**—Ravold and Warren had the opportunity of examining the urine in a case of alkaptonuria. The fresh urine was clear, from pale yellow to reddish brown, darkening on standing, with no unusual odor. The volume varied from 930 c.c. to 1,425 c.c., averaging, 1,050; the specific gravity varied from 1.009 to 1.016, averaging 1.013. The polariscope showed that it contained no sugar. It was always acid and the fermentation test was negative. It reduced copper solutions only on heating. On contact a black ring appeared but no precipitate, and on mixing the liquids the blue color of the reagent disappeared, the mixture becoming green and beginning to darken from the surface down. It reduced ammoniacal silver solution immediately in the cold, giving a silver mirror on the test tube. It did not reduce alkaline bismuth solutions and gave a negative reaction with the phenylhydrazin test. The uric acid was below the average and the amount of urea seemed to be diminished. The homogentisic acid nitrogen quotient averaged 49.9 which corresponds with that found in other samples of urine containing this substance.

St. Paul Medical Journal

June

136 Transverse Abdominal Incisions. E. Boeckmann, St. Paul.
137 Surgical Pathology of the Thyroid. T. F. Riggs, Pierre, S. D.
138 Chlorosis, the Underlying Cause of Symptoms Often Mistaken for Other Conditions. J. L. Rothrock, St. Paul.

Louisville Monthly Journal of Medicine and Surgery

June

139 Splanchnoptosis. C. C. Lucas, Louisville.
140 Different Terminations of Foreign Bodies in the Windpipe. G. H. Chapman, Uniontown, Ky.

Southern California Practitioner, Los Angeles

June

141 The Old Doctor—The Young Doctor—The Ideal Doctor. J. W. Shiels, San Francisco.
142 Osteopathy by an Osteopath. D. L. Tasker, Los Angeles.
143 Prevention of Measles. L. M. Powers, Los Angeles.
144 Ocular Injuries, with Special Reference to Sympathetic Ophthalmia. B. F. Church, Redlands, Cal.
145 Is Tonsillotomy a Proper Operation? W. H. Roberts, Pasadena.
146 *A Simple Differential Stain for Diphtheria Bacilli. D. C. Ragland, Los Angeles.

146. **Differential Stain for Diphtheria Bacilli.**—Ragland has devised the following stain intended specially for the "small town" physician who has a microscope but no incubator. The stain is made up of methylene blue and eosin and the adult diphtheria bacillus is quickly recognized because the polar granules are stained a deep blue, while the remaining portion of the bacillus takes the eosin or pink stain, making thereby a decided contrast. The stain is composed of three solutions, the formula and technic for using which are as follows: Solution "A": Methylene blue, saturated aqueous solution, 10 parts; 10 per cent. citric acid solution, 10 parts; aqua destillata, 80 parts. Solution "B": 10 per cent. aqueous solution citric acid, 5 parts; methyl alcohol, 22 parts; distilled water 73 parts. Solution "C": Eosin, saturated aqueous solution, 1 part; aqua destillata, 199 parts.

The technic is as follows: 1. Make thin smears from throat, especially from the margin of membrane or suspicious path. 2. Dry in air. 3. Fix in flame (gas or alcohol). 4. Add sufficient blue stain "A" to cover smear and allow to act 10 to 15 seconds; then shake it off but do not wash. Now apply solution "B" and allow to act for 10 to 15 seconds, then shake it off, but do not wash. Lastly add solution "C" and allow it to act for 10 to 15 seconds; then shake off excess of stain and blot dry with filter or blotting paper, mount in Canada balsam or cedar oil and examine. Diphtheria bacilli show as pink rods with a dark blue granule in either pole. All other bacilli and cocci are stained pink. This stain has been controlled by the culture method of laboratory diagnosis in over 1,000 cases.

Denver Medical Times and Utah Medical Journal

June

147 Bezold's Mastoiditis. F. E. Waxham, Denver.
148 Acute Traumatic Tetanus Treated by Magnesium Sulphate. A. P. Heineck, Chicago.
149 Tetanus, with Infection of Attending Physician. E. L. Freberger, Alamosa, Colo.
150 Differential Diagnosis of Intestinal Obstruction. H. P. Kirtley, Salt Lake City.

Bulletin Medical and Chirurgical Faculty of Maryland, Baltimore

June

151 *Some Public Health Problems. G. M. Linthicum, Baltimore.

151. Published in full in The Journal, June 4, 1910, p. 1835.

Archives of Pediatrics, New York

June

152 *The Results of Substitute Feeding in Premature Infants. M. Ladd, Boston.
153* Acidified Milk in Pediatric Practice. J. M. Brady, St. Louis.
154 Congenital Obliteration of the Bile Ducts. E. L. Peck, Philadelphia.
155 Stuttering. E. W. Scripture, New York.
156 Casein Curds in Infants' Stools: Biologic Proofs of Their Casein Origin. F. B. Talbot, Boston.
157 *Clean Milk. G. W. Goler, Rochester, N. Y.
158 Bovine Tuberculosis. W. H. Park, New York.
159 Abscess of Liver in an Eight-year-old Boy: Operation. J. R. Judd, Honolulu, H. I.

152. **Substitute Feeding in Premature Infants.**—Ladd studied these cases in two hospitals. In one hospital there were included in this series 95 babies of whom 58, or 61 per cent., died; 24, or 25.3 per cent., lived and gained in weight; 13, or 13.7 per cent., lived but were discharged, either losing in weight or making no gain. Of the last mentioned group many were taken home because of their condition, and probably died, so that the ultimate mortality was undoubtedly considerably more than 61 per cent. In the other hospital there were 30 babies included in the series. Of these, 24 died, giving a mortality of 80 per cent., and 6 lived and gained in weight, a percentage of 20. The mortality was therefore nearly 20 per cent. greater at the Children's Hospital than at the Infants' Hospital. This difference is probably accounted for by the fact that no infant was discharged while losing in weight and condition. All were allowed to remain in the wards until their condition warranted treatment at home.

The total mortality was 65.6 per cent. in 118 out of 125 babies weighing under 2,100 grams at birth. No infant weighing under 1,200 at birth survived. No infant in the sixth month of gestation survived. The smallest baby admitted weighed 570 grams and lived six days. The possibility of materially lowering the mortality by providing proper means of conveying premature infants to the hospital is very great. Premature babies who survived gained on an average only 50 grams a week on modified milk, for an average period of 70 days each. The average energy quotient of the food of 11 patients who lived and gained in weight was 107. There was no definite relation between the energy quotient of the food and the weekly gain in weight. Modified milk, however, carefully administered and supervised, must be considered an unsatisfactory food for premature infants. and should be used only when breast milk cannot be obtained. Ladd says that hospitals planning to receive premature infants should make ample provision for the maintenance of wet nurses. The relative value of padded cribs and incubators could not be accurately judged, as modern incubators have not been used at either of the two hospitals in which this study was made.

153. **Acidified Milk in Pediatric Practice.**—Brady believes from his experience that acidified milk fills a long felt want in the institution feeding of infants. Pure air, however, is indispensable, and the larger the ward and the fewer babies in that ward the greater the success with any method of feeding. Young infants at birth may with advantage be placed on this food. Thrush and other forms of stomatitis are seldom met with in infants receiving this food. The development of scurvy and rickets need never be feared. Acidified milk places at the disposal of the infant the casein in the form of the lactate, which is so necessary for the growth and development of the infant in an assimilable form and in a sufficient quantity. The lactic acid bacillus and the lactic acid certainly seem to prevent the development of intestinal indigestion, as the babies on this food almost invariably have good stools. It seems that the infant, when receiving acidified milk mixtures is in a better position to care for the fats, and that a larger percentage of fat may be fed than when on the usual modified milk mixtures. The casein in acidified milk being in the form of the lactate is not affected by the rennin. Brady emphasizes the rarity of curds in the stools of infants receiving acidified milk mixtures even when top milk mixtures are employed, but he does not advise the use of these high fat percentages in the early weeks, as fat diarrhea and fat intoxication must be reckoned with. From his observations it would seem that fat alone, and protein alone, are not responsible for the curds in the stools of infants fed on cows' milk; for their production it would seem that the fats require the presence of the proteins and that with both acting together the result is the very familiar curdy, mucous stool; the latter due to a secondary catarrh from the irritation of the former. This reasoning seems close at hand when it is considered what occurs in acidified milk feeding. The proteins are in the form of very fine particles, especially if the acidified milk has been well agitated, not coagulable by rennin; therefore, its deleterious influence on the fats is removed, and hence the normal stools. In order to be successful in feeding acidified milk, it is necessary to be well grounded in the principles of infant feeding, and this method does not furnish a short route to this goal. The good results seem due not alone to the low fat, to the presence of lactic acid and to the chemical change of the protein, but the presence of the lactic acid bacillus plays a very definite rôle.

In private practice cases of malnutrition, intestinal indigestion and diarrhea should have this food. Finally, Brady would make a special plea that the city infant during the days of excessive heat, the latter part of July and August especially, receive the advantage of this food.

157. **Clean Milk.**—In the 13 years, from 1884 to 1897, inclusive, during which no systematic milk work was done in Rochester, the total number of deaths under one year of age was 6,306, and the deaths between one and five years of age, 3,304, making a total of deaths from birth to five years of age, 9,610. For the 13 year period, from 1897 to 1909, inclusive, the total deaths under one year of age were 4,641, and the deaths from one to five years of age 2,080, making a total of 6,721. In the first period not all of the deaths were reported; in the last period we have reported the death of every child born at term who breathed. The mortality between birth and five years of age showed a diminution of 30 per cent. in the last period. This, Goler shows, is what can be done when the baby gets clean milk.

Quarterly Bulletin Northwestern University Medical School, Chicago

June

160 The Changes Produced in the Kidneys by Experimental Ligation of the Ureter. G. D. Scott, Chicago.
161 Polydactylism Correlated with Defect of the Fronto-nasal Process. C. W. Prentiss, Chicago.
162 The Topography of the Hypophysis. W. S. Gibson, Chicago.
163 The Repair of Injuries to Peripheral Nerves. J. B. Murphy and A. B. Eustace, Chicago.
164 Traumatic Asphyxia with Report of Cases. F. E. Pierce, Chicago.
165 The Treatment of Syphilis. F. E. Simpson, Chicago.
166 Splenectomy in Relation to Union in Fractures. A. B. Kanavel, Chicago.

Albany Medical Annals

June

167 The Pathology of Tuberculosis of the Breast. C. G. Cumston, Boston.
168 Local Anesthesia. A. H. Traver, Albany.
169 The Clinical Significance of Subfebrile Temperature in Pulmonary Tuberculosis. A. T. Laird, Albany.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

June 18

1 Foreign Bodies in the Air Passages. R. J. Godlee.
2 The Precipitin Test in Medicolegal Work. F. J. McWeeney.
3 [illegible] R. W. Doyne.
4 [illegible] F. E. Batten.
5 A[illegible] Between Simple Gastro-Circulatory Seizure and Angina Pectoris Attack. W. Verdon.
6 Four Cases of Sporadic Cretinism in One Family. B. C. Stevens
7 *The Treatment of the Partially Drowned. J. A. Barnes.

7. **Treatment of the Partially Drowned.**—The result to be aimed at in the treatment of such persons, says Barnes, is the driving of the blood from the abdomen, so that the brain may receive its proper supply. This he aims at by an attempt at auto-transfusion as follows: Having started an assistant on artificial respiration, he firmly bandages the legs from the feet upward. A roller towel is then passed around the patient's abdomen, the two ends crossing in front. One assistant is told off to each of these ends. As the arms are brought down to the chest in the expiratory movement of artificial respiration (Silvester's method) these two assistants grasping the towel-ends firmly with their right hands, pull them, at the same time making pressure on the abdomen with their left hands. In this way considerable squeezing of the abdomen is obtained. As the inspiratory movement commences the pressure is relaxed so as not to interfere with the expansion of the lungs. The process is continued synchronously with the movements of artificial respiration. Barnes' idea is that this acts beneficially in two ways: (1) it assists, by pressing up the diaphragm, to more completely empty the chest with expiration; and (2) it squeezes some of the excess of blood from the abdominal cavity. The bandaging of the legs and arrangement of the towel can be very quickly carried out with assistance, of which there is usually no lack in these cases.

Gravity should also be made to assist the flow of blood to the brain by keeping the head at a lower level than the body. He gives a hypodermic injection of ether (30 minims) and usually one of strychnin as well. The objection to the use of these stimulants—that they stimulate an already tired center and are quickly followed by increasing depression—seems hardly to apply in cases of drowning, as when once reaction has set in recovery is usually rapid.

British Medical Journal, London

June 18

8 Faith Healing. C. Allbutt.
9 “[illegible]” Treatment of Disease. H. Morris.
10 [illegible] T. Butlin.
11 [illegible] W. Osler.
12 Considerations on the Occult. T. C. Shaw.
13 Palaeogenic Face-Pattern in Acroteric Piebalds. J. Hutchinson.
14 Dermatitis Artefacta. N. Walker.

Medical Press and Circular, London

May 25

15 Disseminated Sclerosis. J. Taylor.
16 The Roentgen Treatment of the Superficial Cutaneous Catarrhs. G. J. Myller.
17 Acute Leukemia. T. G. Moorhead.
18 A Suggested Memorial to King Edward, the Peacemaker. D. Walsh.

June 1

19 The Change of Life in Man. M. de Fleury.
20 Coxa Valga. S. Pringle.
21 Ununited Fracture of the Tibia Treated by Wiring. W. C. Stevenson.
22 A Convenient Instrument for Ready Clinical Investigation of the Sensibility to Coolness and Warmth. T. A. Williams.

June 8

23 The Problems Presented by Extreme Cases of Incontinence of Urine and Some Solutions of Them. W. Alexander.
24 *Cesarean Section in the Treatment of Eclampsia Gravidarum. F. J. McGann.
25 Nux Vomica. G. C. Crichton.
26 Adiposis Dolorosa. J. C. McWalter.

24. Cesarean Section in Treatment of Eclampsia Gravidarum.—McCann performed Cesarean section successfully in the case of a woman who was seen shortly after her first convulsion. McCann suggests the following indications for this operation: (1) When the fits are severe and recur in rapid succession; (2) when labor has not commenced; (3) when the cervix is difficult to dilate from elongation, hypertrophy or excessive rigidity; (4) when the mother is moribund and the fetus living and viable; (5) when labor has commenced and there is found considerable disproportion between the size of the child and that of the pelvis; (6) when the surroundings of the patient are suitable for a major surgical operation and when the services of an operator skilled in pelvic surgery can be obtained.

Clinical Journal, London

May 25

27 The Heart. S. West.

June 1

28 *Three Rare Tumors of the Base of the Tongue: Surgery of Malignant Diseases of the Tongue. F. Eve.
29 The Heart (continued). S. West.
30 So-called Second Sight—Its Features, Varieties and Causes. P. Dunn.

June 8

31 Hemiplegia and Its Treatment. G. Holmes.
32 The Heart (concluded). S. West.
33 The Hyperemic Treatment of Inflammation. A. V. Poyser.

28. Tumors of the Tongue.—The two cases of endothelioma of the tongue reported by Eve presented many features in common. In each the growth occupied the extreme base of the tongue and formed a very prominent disk-shaped mass which was not ulcerated on the surface. Glands were distinctly enlarged in the superior carotid triangle in both. The symptoms had been discomfort or a feeling of a foreign body in the fauces, and were so slight that the growth attained a considerable size before it was discovered. The microscopic character of the tumor in the first case was of a lymph-endotheliomatous type, the growths consisting of cord-like masses of endothelial cells, in places surrounding dilated lymphatic channels. In the second case it was peritheliomatous. There were very numerous and large vascular channels surrounded by cords of endothelial cells. The third case was one of epithelioma.

Australasian Medical Gazette, Sydney

April

34 Surgical Work of the Year. H. C. Hinder.
35 The Evolution of the Treatment and Care of the Insane. S. H. R. Montgomery.
36 Bilateral Tubal Pregnancy with Rupture on Either Side. T. G. Wilson.
37 *Strangulated Hernia in an Infant 16 days Old. E. E. Moule.
38 Poisoning by Sulphate of Zinc. A. Palmer.

37. Strangulated Hernia in an Infant.—Sixteen days after birth, the baby was suddenly seized with an attack of vomiting and seemed very ill. Then it got a little better and passed some urine and feces. An hour later Moule found a lump in the upper part of the right scrotum; neither nurse nor mother had noticed it. The lump gurgled on pressure, but was irreducible even under chloroform. The sac when opened proved to be a patent funicular process containing about four inches of purplish gut.

British Journal of Children's Diseases, London

May

39 Symmetrical Trophic Lesions of the Extremities in a Child: Syringomyelia (Morvan's Type). H. M. Fletcher.
40 Chronic Polyarthritis with Enlargement of the Lymphatic Glands (Still's Disease). R. B. Ness.
41 The Infant Out-patient from a Public Health Standpoint. E. H. R. Harries.

June

42 Acute Nonsuppurative Encephalitis in Children. N. P. Marsh.
43 *Polioencephalitis of the Cerebello-Rubrospinal System—A Cause of "Acute Tremor" in Children. L. Parsons.
44 *A Model Crèche. B. Myers.

43. Polioencephalitis.—While polioencephalitis will not account for all forms of acute tremor, for it has been seen associated with a tuberculous tumor, Parsons holds that a diagnosis of polioencephalitis can usually be made by a consideration of the type and age of the child, the season of the year, character of the onset, and the course of the disease, the absence of changes in the fundi oculorum and cerebrospinal fluid, and in those cases where it does occur, the presence of an associated poliomyelitis.

44. A Modern Crèche.—The ideal, or modern crèche, Myers says, should be so arranged (a) that the day nurseries, bathrooms, etc., for the children's use ought to be on the ground floor; (b) that the kitchen scullery, larder, pantry, mother's dining-room, and a laundry-room should be situated in the basement; and (c) that the matron's and nurses' bedrooms, sitting room, students' room, cloak-room, etc., could be conveniently placed on the first floor.

Journal of Tropical Medicine and Hygiene, London

May 16

45 Operations for Elephantiasis. T. E. R. Branch.
46 *Necatur Americanus* in the Bahr-Elghazel Province of the Anglo-Egyptian Sudan. J. B. Christopherson.

Journal of Obstetrics and Gynecology of the British Empire, London

June

47 *After-results of Abdominal Operations on the Pelvic Organs: 1,000 Consecutive Cases. A. E. Giles.
48 The Prevention of Ophthalmia Neonatorum with Special Reference to the Teaching of Midwives. A. N. Walker.
49 *The Hemolytic Lipoids of Degenerating Fibroids with Special Reference to Red Degeneration. H. L. Murray.
50 Subphrenic Abscess Complicating Pregnancy with Sloughing of Spleen. B. A. J. Solomons.

47. After-Results in Abdominal Operations.—A review of the final results in 248 cases has convinced Giles that the effect of hysteropexy on the general health is very good, as 90 per cent. of the patients were better than before the operation, as many as 75 per cent. being in quite good health; while among the 10 per cent. who were not better the cause had nothing to do with the operation in one-half of them. Symptoms are markedly relieved; 90 per cent. of the patients had either no pain afterward or had less pain than before the operation; 14 patients were relieved of dysmenorrhea, 21 of dyspareunia, and 16 of headaches; 22 patients got relief from menorrhagia, and 13 from excessive leucorrhea; 13 patients found their constipation improved. As regards the effect of hysteropexy on the bladder, 18 per cent. of patients experienced frequency of micturition, and 77 per cent. had no trouble, or no more than before operation. The position of the uterus remains permanently good in about 95 per cent. of cases; about 5 per cent. suffer from partial or complete return of displacement. The results in cases of procidentia are not quite as good as in cases of retroversion or prolapse; but 88 per cent. of cases of procidentia show permanent good results. To obtain the best results in the latter cases combined operations are usually necessary. In the event of pregnancy following hysteropexy, there is a slightly increased tendency to miscarriage if pregnancy follows too soon after the operation; hysteropexy causes no subsequent complications of labor, as out of 44 cases of full-time delivery 40 had normal confinements, and the remaining 4 had complications independent of the operation. When pregnancy follows hysteropexy, the position of the uterus is not disturbed thereby, as the results after pregnancy were just as good as in cases where no pregnancy followed, and the cases of full-time delivery showed only one case of partial return of displacement out of 29 cases. Among these cases, therefore, the uterus kept in good position in 96.6 per cent. of the cases, as against 94.7 per cent. in the cases of patients who did not become pregnant.

49. Red Degeneration of Fibroids.—Murray examined four specimens of red degeneration of uterine fibroids and found that the lipoids of degenerating fibroids are markedly hemolytic. This hemolytic action is readily restrained by blood plasma. Excess of lipoid in a suspension of red blood corpuscles leads to the development of a gray or brown color in place of the red. Thrombosis in red degeneration is not primary. Red degeneration microscopically is indentical with certain other degenerating fibroids showing no red. The accumulation of lipoid is not, in the first instance, dependent on the presence or amount of thrombosis, but on the degree of preceding degeneration. Laking of the corpuscles has more relation to lack of the fluid constituents of the blood than to large excess of lipoid. Many of the stains in fibroids—not necessarily red stains—may be due to old symptomless hemolysis.

Archives de Médecine des Enfants, Paris

June, XIII, No. 6, pp. 401-480

51 *Chronic Appendicitis in Children. J. Comby.
52 Vital Staining with Neutral Red for Study of the Pathologic Cerebrospinal Fluid. E. Weill and A. Policard.

51. **Chronic Appendicitis in Children.**—Comby reviews 31 operative cases and 108 others in which chronic appendicitis was diagnosed, and discusses the differential signs. The condition is more common than generally recognized, he says; many cases of assumed dyspepsia, anemia, chlorosis, liver affections, enterocolitis, the status lymphaticus and tuberculosis are in reality solely or mainly the effect of chronic appendicitis. Acute appendicitis is generally merely the flaring up of a chronic process, and physicians should be on the lookout for this. Periodical vomiting is a sign that the child is a candidate for acute appendicitis, as also a tendency to repeated indigestion. Constipation is habitual and obstinate although diarrhea may be observed; some of the children fail to develop properly but after removal of the appendix grow promptly to normal stature. There is also, he says, a nervous form of chronic appendicitis. Children with it are moody, disinclined to play or work, and seek solitude. A change of character in this line, and discovery of digestive disturbances should suggest chronic appendicitis. Intercostal neuralgia may also be a sign, or pain in the right leg, with a tendency to limp, suggesting hip or knee disease; Comby has had several cases of this kind. In another group the suggestive symptom was a tendency to faint, the children growing pale and falling in syncope but retaining consciousness throughout. Headache, convulsions, urticaria and prurigo were observed in other cases. The proof in regard to the causal appendicitis in these cases is afforded by the rapid restoration to normal after appendicectomy. A spontaneous cure of chronic appendicitis cannot be counted on, although there may be symptomless intervals, sometimes of years. Surgical treatment is required in the majority of cases, especially for chronic appendicitis in children. The dangers of an interval operation are so slight as to be negligible, but the diagnosis must be positive. In case of doubt he prefers to operate and has never yet had occasion to regret his decision.

Bulletin de l'Académie de Médecine, Paris

June 7, LXXIV, No. 22, pp. 497-587

53 *Inflammation and Thickening of the Pleura with Persistent Effusion. (Les pachypleurites et les pleurésies intarissables.) M. Dieulafoy.
54 *Vomiting of Pregnancy. (Des vomissements de la gestation.) A. Pinard.
55 *Inflammatory Tuberculosis of the Uterus and Adnexa. A. Poncet and R. Leriche.

Presse Médicale, Paris

June 8, XVIII, No. 46, pp. 425-432

56 *Inflammation and Thickening of the Pleura with Persistent Effusion. (Les pachypleurites et les pleurésies intarissables.) M. Dieulafoy.

June 11, No. 47, pp. 433-440

57 Sudden Variations in the Number of Leucocytes Depending on the Arterial Pressure. J. Camus and P. Pagniez.

53-56. **Pleurisy with Persistent Effusion.**—Dieulafoy reports two cases of thickening of the pleura with recurring effusion for ten years in one case and for twenty years in the other. The patients were tapped over a hundred times and a total of over 230 liters was withdrawn but the general health persisted constantly excellent; the patients were incommoded merely by the mechanical disturbance from the effusion. In the first case the effusion was purulent and fetid and streptococci and pneumobacilli could be cultivated from it, but they were of such attenuated virulence that they proved harmless for animals. In the other case the effusion was constantly sterile. The effusion in both cases has finally ceased, the patients not having required tapping for a long time. Dieulafoy theoretically advocates decortication of the lung in such cases, but there was nothing to indicate that active intervention was necessary in these or in a third case in which the patient was tapped 15 times in the course of six years; there has been no return of the effusion since 1885 in this last case.

54. **Vomiting of Pregnancy.**—Pinard gives a historical review of this subject and states that years of experience have confirmed him more and more in the conviction that intoxication is responsible for the tendency of pregnant women to vomit, and that the outcome depends on the intensity of the intoxication. He reiterates his assertion that the pulse is the best index of the degree of intoxication, and that if it goes above 100 the pregnancy should be interrupted at once. The details of 7 recent cases are added to supplement the 20 he has previously published (reviewed in THE JOURNAL, Oct. 30, 1909, page 1518).

55. **Inflammatory Tuberculosis of Internal Genitals.**—Poncet and Leriche regard a latent tuberculosis as responsible in many cases for sclerosis of the ovaries or toxic impregnation of the Graafian follicles entailing infantilism, hypoplasia of the genitals, amenorrhea, dysmenorrhea, pelvic neuralgia or a tendency to abortions. An old chronic latent tuberculous process may likewise explain the heavy, easily bleeding, painful uterus in women of the alleged neuroarthritic type. All require general antituberculosis measures and possibly tuberculin.

Revue de Chirurgie, Paris

June, XXX, No. 6, pp. 967-1174

58 *Disadvantages of Scopolamin for General Anesthesia. (Chloroforme. Chloral. Scopolamine.) P. Delbet and R. Dupont.
59 Later Results of Transplantation of Veins on Arteries. A. Carrel.
60 Fifteen Cases of Malignant Tumors of the Orbit. A. Faix.
61 Tumors of the Jaws of Dental Origin. (Enclavomes dentaires.) R. Leriche and G. Cotte.
62 Rôle and Mechanism of Infectious Disturbances from a Wisdom Tooth. (Accidents de dent de sagesse.) C. Capdepont.

58. **Disadvantages of Scopolamin for General Anesthesia.**—Delbet and Dupont review their experiences with 120 patients given a dose of scopolamin as a preliminary to chloroform. The list includes 2 fatalities, one serious postoperative syncope and a number of other mishaps. They refer also to Flateau's one fatality in 30 cases, Ziffler's 3 in 64 cases and Blos' several serious mishaps and one death in 105 cases. They declare that the advantages ascribed to the use of scopolamin for this purpose are more apparent than real; it may retard vomiting but does not do away with it altogether. Scopolamin, they add, is unquestionably toxic for patients whose emunctories are out of order, even in a dose as small as 0.001 gm. (1/64 grain). They express a decided preference for chloral as a preliminary to chloroform, as it is not dangerous and in the dose of 4 gm. (61 grains) tranquillizes the patient and prevents the phase of agitation under chloroform. They have used it thus in 850 cases, giving the chloral in water about half an hour before the operation. In the 22 cases on record of fatalities following an injection of scopolamin as a preliminary to general anesthesia, 13 were cancer patients. This proportion warns especially against giving scopolamin to patients with cancer. In 4 other cases the surgical affection was in the neck. In one of the other cases an unusually large dose of scopolamin had been given (0.0036 gm. scopolamin and 0.06 gm. morphin).

Semaine Médicale, Paris

June 8, XXX, No. 23, pp. 265-276

63 *Subacute Typhoid Septicemia. V. Audibert.

June 15, No. 24, pp. 277-288

64 *Dilatation of the Stomach Owing to a Lesion in the Peritoneum or Stomach Wall. J. Paviot.

63. **Subacute Typhoid Septicemia.**—Audibert declares that sufficient attention has not been paid to subacute septicemia from the typhoid bacillus, and yet it is extremely common. The reaction to the presence of the bacillus in the blood may vary with every individual attacked. He protests against restricting the idea of typhoid toxi-infection to the syndrome involving the intestine; it may attack any organ

or tissue and the syndrome has probably many times been diagnosed as influenza, atypical typhoid, gastric fever, etc. This subacute "Eberthian septicemia" has a slow onset; there is no uniform type of fever but it may long continue, with gastric disturbances; the mind is not affected and the patient feels calm and wants to eat. He thinks that this form of typhoid infection occurs more commonly in children than the typical form.

64. **Dilatation of the Stomach from Lesions in the Wall or Peritoneum.**—Paviot has examined with the microscope the stomach from certain cases of dilatation during life and found invariably some lesion in the wall or peritoneum, evidently responsible for the dilatation—of course this material excludes all cases of stenosis of the pylorus. The lesion may long have healed, but it leaves the stomach wall more or less insufficient for its task, owing to sclerosis in the region adjoining the lesion. Careful inquiry will generally elicit a history of some inflammatory process in the region, possibly years before. Once convinced that these dilated stomachs, painful at times or with recurring pains, are of inflammatory nature, wonderful benefit may be derived from energetic revulsion or similar therapeutic procedures, entirely aside from dietetic measures. It may even be advanced as a principle that the more the dilatation of the stomach seems to coincide with painful points in the region below the liver or in the right flank, the better the prospects of a cure under heat and revulsion applied perseveringly to the painful zones. Local revulsion may also prove useful with other gastric disturbances, as for instance for a hard drinker with ulcerative gastritis or a patient with hematemesis and the epigastrium more or less tender; the benefit derived in some of these cases from heat or blisters is another argument in favor of the inflammatory origin of dilatation of the stomach in some cases, whether secondary to inflammation in the peritoneum or to gastric ulcer.

Archiv für Verdauungs-Krankheiten, Berlin

June, XVI, No. 3, pp. 267-418

65 *Salt Content of Common Articles of Food. (Der Chlor- bezw. Chlornatriumgehalt der gebräuchlichsten menschlichen Nahrungs- und Genussmittel.) J. Leva.
66 Case of Abnormally Small Stomach. (Fall von Mikrogastrie.) H. Eppinger and G. Schwarz.
67 Influence of Chologen on Secretion of Bile. (Experimentelle Studien über die Beeinflussung der Gallensekretion durch neuere Cholagoga.) F. Eichler and B. Latz.
68 Influence of Lactic Acid Bacilli on Intestinal Flora. (Einfluss der Milchsäure-Bazillen auf die [illegible] M. Einhorn and E. Wood (New York), and F. [illegible]
69 *The Bead Test and the Test Diet. (Eine [illegible] über die Perlenprobe von Max Einhor[illegible] für Darmkranke von Adolf Schmidt.) J. G. [illegible]
70 *Nervous Dyspepsia. A. Bofinger.
71 Influence of the Salicylates, Mercury and Certain other Drugs on the Diastase Content of the Saliva. (Zur Kenntnis der diastatischen Wirkung des menschlichen Mundspeichels.) (Einfluss einiger Medikamente auf die Speicheldiastase.) E. Fricker. Commenced in No. 2.

65. **Salt Content of Common Articles of Food.**—Leva's research in this line was mentioned with some of his conclusions in The Journal, July 2, page 93. His tables fill over 15 pages, presenting the results of over 360 analyses and comparing them with those of others. The work has been done to supply a basis for a systematic salt-poor or salt-free diet but he does not here discuss the indications for either.

69. Summarized in The Journal, April 23, 1910, page 1405.

70. **Nervous Dyspepsia.**—Bofinger reviews the various conflicting views on this subject and advocates classifying in three groups the stomach symptoms generally described under the name of nervous dyspepsia: 1, those of neurogenic origin, that is, disturbances occurring peripherally in the organ, from disease or trauma, irritation with centripetal conduction—this is the neurasthenic type; 2, the central or psychogenic type with centrifugal conduction of the irritation to the organ—the hysteric type; and 3, those of central, psychogenic origin but with no conduction of the irritation—the hypochrondriac type. These types are frequently combined and various observers interpret the symptoms in different fashion according to their pet theories. In a case described in detail the syndrome was accompanied by all the signs of Stiller's universal asthenia, also of what Cramer calls chronic atony of the intestines, while the patient could also be regarded as an example of Strümpell's axiom: "It is not the stomach trouble that makes a man a hypochondriac; it is the hypochondria that entails the stomach trouble." The patient, a young bachelor, further presented attacks of sudden dyspnea, with a chill, pain in the heart region, irregular pulse, etc., the attacks lasting perhaps half an hour—a typical example of what M. Herz has described as the *sexual psychogenic* cardiac neurosis. Each one of these scientists might have ticketed and demonstrated the case exclusively as a typical example of his special assumption in regard to nervous dyspepsia.

Berliner klinische Wochenschrift

May 30, XLVII, No. 22, pp. 1001-1044

72 *Determination of Minute Proportions of Blood in Clinical and Forensic Medicine. (Nachweis kleinster Blutmengen.) H. Citron.
73 Absorption of Radium Emanations Through the Skin. (Aufnahme von Radiumemanation durch die Haut.) W. Engelmann.
74 Certain Changes in the Respiration Rhythm. (Klinische Studien über einige Veränderungen des Atmungsrhythmus.) C. Frugoni.
75 *The Pneumatic Cabinet in Treatment of Chronic Bronchitis, Especially that Consequent on Heart Disease. (Die pneumatische Therapie bei chronischer Bronchitis.) H. Samter.
76 *Treatment of Paralytic Conditions in the Arm. (Behandlung von Lähmungszuständen an der oberen Extremität.) C. Helbing.
77 *Jaundice with Appendicitis. (Icterus bei Perityphlitis.)* E. Holländer.
78 Two Cases of Tubal Chorioepithelioma. (Die bösartigen Chorioepithelioma des Eileiters.) G. Davidsohn.
79 Röntgenology in the Service of the General Practitioner. G. Loose.

72. **Determination of Invisible Blood.**—Citron examines the fluid in question by mixing with alcohol, then rinsing with ether and dissolving the residue in pyridin. The latter dissolves the blood pigments and they are readily detected with the spectroscope if the specimen is inspected through its longest diameter. He uses a square shallow chamber to hold the specimen and examines it lengthwise.

75. **The Pneumatic Cabinet in Treatment of Chronic Bronchitis.**—Samter refers in particular to bronchitis associated with cardiac insufficiency and tabulates the effect on the blood pressure of the therapeutic application of the pneumatic cabinet. The influence of the compressed air is felt in the promotion of the respiration; the diaphragm descends deeper, the lungs expand, the walls of the bronchi spread apart and the mucus clinging to them is carried out by the more vigorous respiration. The best results were obtained with chronic bronchial catarrh without much fluid secretion. His experience has shown that even with a weak heart musculature the blood pressure does not drop in the cabinet, confirming the harmlessness of the method in uncomplicated cases of cardial bronchitis.

76. **Treatment of Paralysis of the Arm.**—Helbing discusses the orthopedic management of spastic cerebral hemiplegia and birth paralysis, emphasizing the importance of over-stretching of the muscle as the cause of the trouble. When the ends of the muscle are brought closer together, correcting the over-stretching, the apparently paralyzed muscle will often regain its function as he shows by some typical examples.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 1, XL, No. 16, pp. 497-536

80 *Artificial Feeding of New-born Infants. (Zur Kenntnis der künstlichen Ernährung Neugeborener.) E. Döbeli.

80. **Infant Feeding.**—Döbeli gives artificial food to a new-born infant only in amounts sufficient to keep the child at the same weight after the first physiologic decline. He is convinced that the child brings with it into the world enough reserves to supply the needed calories for a time with little assistance. It has been his experience that children with the "exudative diathesis" were rather above the normal weight at birth, and he has never witnessed any harm result from keeping the food down to 300 gm. for the first two days and 500 or 600 gm. for the two or three weeks following. He prefers a 25 per cent. dilution of milk, generally skimmed. The children thrive better when kept on this small amount for the first few weeks. Plump children especially are well supplied with a reserve of calories and do not need to have fat supplied in the food at first.

Deutsche medizinische Wochenschrift, Berlin

June 2, XXXVI, No. 22, pp. 1017-1064

81 [illegible] (Ueber Transthermie und die Therapie [illegible] C. Funck.
82 *[illegible] Tuberculosis with Artificially Induced [illegible] Verlauf der Kehlkopftuberkulose bei der [illegible]neumothorax behandelten Lungenschwind- [illegible] adi.
83 Inoculation of Guinea-pigs with the *Spirochæta pallida*. (Erfolgreiche Uebertragung von Syphilisspirochäten auf Meerschweinchen.) H. F. Hoffmann and E. Tomasczewski.
84 Modificatic[illegible] [illegible]ratyphoid Bacilli. (Umwar[illegible] [illegible]aften des Paratyphus [illegible]
85 *Importanc[illegible] and Treatment of Edem[illegible]
86 *Significance of the Maximal Blood Pressure. (Die wahre Bedeutung des sogenannten maximalen Blutdruckes.) J. v. Benczur.
87 *Schlesinger's "Leg Sign" in Tetany. (Das "Beinphänomen" bei Tetanie.) W. Alexander.
88 Experimental Bases for the Electrocardiogram. E. Rehfisch. Commenced in No. 21.
89 Radioscopic Localization of Foreign Bodies. (Nadeln im Kniegelenk. Gebisse im Oesophagus.) M. Cohn.
90 *Robert Koch's Last Illness. L. Brieger and F. Kraus.

82. Course of Laryngeal Tuberculosis with Artificially Induced Pneumothorax.—Da Gradi reports from Forlanini's clinic at Pavia three cases of pulmonary tuberculosis in which pneumothorax treatment was applied, and the associated laryngeal lesions healed completely under its influence. He emphasizes that laryngeal tuberculosis should not be regarded as a local process, because it is maintained constantly by the passage of sputum from lesions lower down. If the latter are cured, the laryngeal lesions are liable to subside of themselves. In the cases reported this occurred under the simplest local measures or without them in one case as the infectious focus below practically healed.

85. *Importance of the Mineral Salts in the Pathogenesis and Treatment of Edema.*—Schloss confirms Levy's statement in regard to the extremely sensitive reactions on the part of infants to the intake of salt, thus permitting instructive research on the metabolism of mineral salts. After theorizing to explain the phenomena observed, he relates clinical findings which demonstrate the correctness of the deductions. It seems that the healthy infant behaves in respect to sodium chlorid like an adult with severe insufficiency on the part of the kidneys. The salt is retained for a longer or shorter time, and the proportion to be retained is determined by the relative salt poverty of the tissues; this is dependent on the food and is thus most pronounced in breast-fed infants. When more mineral salt is ingested the organism defends its cells against osmotic injury, first by a diluting reaction and then an elimination reaction. Which of these two reactions predominates depends on the greater or less harmfulness of the substances in question for the organism, especially for the kidneys. The predominance of the one or the other reaction entails edema or increased diuresis. With edema from congestion, effusions, etc., if a concentrated solution of salt is given, there will be increased elimination of water in consequence, draining away the edema. The salt does not exert any direct diuretic power and consequently salt is contraindicated in nephritis on account of the danger of retention and resulting injury. But a broad field of usefulness seems to be opening in the line of treatment of passive accumulations of fluid. He relates a striking example of this in an infant with idiopathic dropsy developing during feeding with buttermilk. By continuous administration of small doses of a mineral salt, this edema disappeared entirely in two days. He gave calcium phosphate in this case, having found that the calcium salts are more effectual than the sodium salts. His theory to explain why urea does not cause osmotic disturbances is that the latter result only with substances which are unable to permeate the cells; urea is evenly diffused in the cells and the fluids bathing them, consequently it does not entail osmotic disturbances—whatever other evils may be laid to its charge.

86. The Significance of the Maximal Blood Pressure.—Benczur advises the simultaneous use of the Recklinghausen apparatus or its equivalent and the Gärtner tonometer. The pressure in the tonometer shows only a trifling reduction when the apparatus above registers the "maximal" pressure. The suppression of the pulse wave merely transforms the waves of the blood stream into a continuous current; the lumen of the artery is not made smaller. The difference between the maximal blood pressure and the pressure in the cuff which suppresses the Gärtner pulse differs within a wide range. It is very small in heart disease with failing compensation.

87. Leg Phenomenon in Tetany.—Alexander has confirmed Schlesinger's findings in regard to the leg sign in tetany, mentioned in THE JOURNAL, April 9, 1910, p. 1244. He states that it was absent in two infants with other unmistakable signs of tetany, but it was constant in the few adults examined.

90. Summarized in Berlin Letter, June 25, 1910, page 2132.

Deutsche Zeitschrift für Chirurgie, Leipsic

May, CV, Nos. 1-2, pp. 1-260

91 *Experiences with 38 Cases of Ileus. (Zur Pathologie und [illegible]) S. Medowoy.
92 R[illegible] of the Duodenum. (Die [illegible] und Peristaltik radiologisch [illegible]
93 *Treatment of Spontaneous Dislocation of the Hip Joint in [illegible] Disease. (Zur Therapie spontaner [illegible] im Gefolge akuter Erkrankungen.) [illegible]
94 *Enterotribe Clamp [illegible] etc. ([illegible] neues Verfahren zur A[illegible] und Enteroanastomose [illegible] während der Operation.) E. Martini.
95 Roentgen-Ray Research on Hypertrophy of the Prostate. (Darstellung der Prostatahypertrophie im Röntgenbilde.) L. Burkhardt and H. Floercken.
96 Combination General Anesthesia. (Zur Frage über kombinierte Narkosen.) E. v. Karlowicz.
97 *Importance of the Thymus for Surgery. D. G. Zesas.
98 *Enterotribe Button for Gastroenterostomy, etc. (Wie kann man den vorläufigen Anus praeternaturalis und die Enteroanastomose, unter Verwertung der Vorteile und Ausschaltung der Gefahren der beiden Operationen, miteinander vereinigen?) A. Marro.
99 *Experimental Research on the Action of Measures for Resuscitation after Temporary Occlusion of the Aorta and Pulmonary Artery. (Experim[illegible] Wirkung von künstlicher A[illegible] und Adrenalin auf den [illegible] Verschluss der Aorta und [illegible] nahme auf die Lungenembo[illegible] A. Läwen and R. Sievers.
100 Deformity of Child's [illegible] ce of Artificial Anus. (I[illegible] lange bestehendem Anus [illegible] A. Läwen.

91. Ileus.—Medowoy reviews the experiences with 38 cases of ileus at the university clinic at Basel in charge of Wilms.

93. Treatment of Spontaneous Dislocation of the Hip Joint in Consequence of Acute Disease.—Brandes emphasizes the importance of prevention of dislocation when a secondary process develops in a joint. Mere mechanical supports are not enough; the dislocation is generally the result of distention from an effusion in the joint, stretching and loosening the ligaments and favoring the escape of the head from its socket at the slightest accident or effort. Puncture to release the effusion, repeated as needed, is thus the best prophylaxis. It also aids in the healing of the inflammation. The majority of these secondary spontaneous dislocations occur in the course of typhoid fever, and consequently double vigilance is required in this disease. If the luxation has occurred, puncture, reduction and other measures as for congenital dislocation give the best results. In the personal case described, the luxation occurred in consequence of an osteomyelitic process in the neck of the femur in a little girl. The literature on the subject is reviewed, including Kummer's compilation of 51 cases of spontaneous luxation (exclusive of tuberculosis and osteomyelitis) and Degrez' 81 cases. The outcome is growing constantly better as the affection is being managed more and more like a congenital luxation.

94. Enterotribe Clamp for Gastroenterostomy, etc.—Martini reports good results from the use of a little shell which he has devised to facilitate the union of stomach and intestine. It consists of two concave parts hinged together at one end, the edges of both parts cut into sharp teeth, the whole when closed resembling somewhat a pea-pod, 4 or 6 cm. long by 8 or 10 mm. wide. The bowel is sutured to the stomach, then a buttonhole is made at one end of the suture and one arm of the enterotribe is introduced below the suture, the other arm clamping down on it from above. The suture is thus completely enclosed above and below inside the little shell. The teeth do not quite touch each other, so no opening

is made that might allow escape of the content of the gut. The parts are drawn together above the shell for a second suture, burying the shell beneath. The tissues slough away by the second or third day from the irritation of the teeth on the shell and the anastomosis is complete. The technic gave exceptionally good results in experiments on 12 large dogs, both for gastroenterostomy and enteroanastomosis.

97. **The Thymus from the Surgical Standpoint.**—Zesas reviews 21 operations on the thymus on record and mentions that Friedländer and Myers induced retrogression of an abnormally large thymus by Roentgen exposures, the former in a two months' old male infant, with 8 exposures in one month, the latter with 47 exposures in three months. In the 21 operative cases, 16 of the patients were cured, 2 improved and 3 died. No untoward by-effects were observed in any case. Hypertrophy of the thymus was discovered in 40 cases of death during anesthesia, 29 of the patients being less than 20 years old. In 22 cases of a fatality during an operation for exophthalmic goiter, the thymus was found enlarged; all but one of the patients succumbed to heart failure. This suggests, Zesas thinks, the possibility that the enlarged thymus should be the gland to be removed rather than the thyroid, or at least thymectomy should precede the strumectomy. The operation should not be deferred, however, until the heart has been injured beyond repair by the hyperthymization.

98. **Mechanical Device to Secure the Advantages of Both a Preliminary Artificial Anus and Enteroanastomosis Without their Dangers.**—Marro gives an illustrated description of a device invented for a special case, a patient with advanced tuberculosis with a femoral hernia incarcerated for five days. He has applied this "button enterotribe" in 2 cases to date with excellent results.

99. **Experimental Research on Measures for Resuscitation after Temporary Occlusion of the Aorta and Pulmonary Artery.**—Läwen and Sievers have been conducting extensive research to supply a physiologic basis for Trendelenburg's operative treatment of pulmonary embolism, studying the effect of clamping the aorta and pulmonary artery with and without artificial respiration and other measures for stimulation and resuscitation. The most effectual of all was artificial respiration with oxygen, possibly supplemented by an injection of epinephrin directly into the left ventricle. Massage of the heart may prove useful in addition, but this cannot be relied on alone. This combination revived the animals after 6 or 8 minutes—which is ample time for the Trendelenburg operation. There is no need for differential pressure during the operation as the respiration stops completely.

Medizinische Klinik, Berlin

May 29, VI, No. 22, pp. 849-888 and Supplement

101 *Treatment of Contracted Pelvis. (Behandlung des engen Beckens in Praxis und Klinik.) P. J. Jung.
102 Comparison of Clinical and Radiologic Findings in Stomach Diseases. (Die radiologische Feststellung gewisser Krankheitsbilder des Magens.) S. Jonas.
103 Treatment of Appendicitis. (Welchen Fortschritt sollen wir in der Behandlung der Blinddarmentzündung machen?) E. Siegel.
104 Climatic Treatment of Pulmonary Tuberculosis. (Klimatische Behandlung Lungenkranker.) A. Moeller.
105 Radiologic and Autopsy Lung Findi[illegible] v. Dehn.
106 *Operation for Presternal Dislocati*[illegible] [illegible]runert.
107 *Alcohol and Other Stimulants as [illegible] Disease. (Genussmittel bei Herzkranken.) [illegible]
108 Advance Phase of the Diazo Rea[illegible] Urine. (Ueber eine Vorstufe der Ehrlichschen Diazoreaktion im Harne von Tuberkulösen.) M. Weisz.
109 [illegible] Technic for Staining Tubercle Bacilli. (Tuberkel- [illegible] Gram und deren Bedeutung für die [illegible] W. Beyer.
110 [illegible] [illegible]reatment of Leg Ulcer. (Behandlung [illegible]hwürs.) J. Schäffer.

101. **Treatment of Contracted Pelvis.**—Jung remarks in the course of this postgraduate lecture that few practitioners realize the importance of taking the temperature as a routine measure in every obstetric case on first arriving. He denounces prophylactic version and high forceps unless the latter is the last resort just before perforation. In general practice, perforation is necessary with a much contracted kidney when the child is dead or there are signs of infection. He says in regard to artificial premature delivery that it should be recommended only when the mother and child afterwards can count upon careful attendance for a suitable length of time. In these conditions it is to be warmly commended. The moment for intervention he determines by examining the woman about once a week, striving to push the head into the pelvis. As long as it can be done with ease, the delivery can be deferred, but when this becomes difficult he interferes. The best time is the thirty-sixth week, but two or even four weeks earlier are suitable. A child weighing from 2,000 to 2,500 gm., or nearly 6 pounds, with good care generally develops well, without harm from the premature delivery. With primiparæ, however, he advises against premature delivery as it is impossible to foresee the outcome. The written consent of wife and husband he regards as indispensable before undertaking tubal sterilization in an operative case of much contracted pelvis, as also when abortion is induced. In the latter case he advises consultation with another physician, preferably the district physician.

107. **Stimulants, Etc., in Heart Disease.**—Herz believes that the moderate use of alcohol, coffee, tea, or tobacco may be advantageous in certain cases, especially when patients are depressed from the restrictions imposed by their disease. Denicotinized tobacco is especially useful for patients with heart disease. Alcohol and coffee may even have a direct remedial effect; a little brandy or wine may restore appetite and beer or rum dispel insomnia. Coffee may prove useful as a direct analeptic but it is contraindicated in cardiac neuroses as it is liable to increase the pulse. It also has a tendency to cause extrasystoles and thus should be avoided with signs of coronary sclerosis.

Münchener medizinische Wochenschrift

May 31, LVII, No. 22, pp. 1161-1208

111 *Constant Bacteriologic Findings in Lupus. (Zur Aetiologie des Lupus vulgaris.) M. Krüger.
112 Biologic Research on Tumor Cells. (Zur biologischen Untersuchung von Tumorzellen.) T. v. Wasielewski and L. Hirschfeld.
113 Serodiagnosis of Malignant Tumors by Means of the Meiostagmin Reaction. (Die Serodiagnose bösartiger Geschwülste mittels der Meiostagminreaktion.) M. Ascoli and G. Izar.
114 Salt as Antidote in Bromid Intoxication. (Weitere Mitteilungen [illegible] Verwendung des Kochsalzes in der Bel[illegible] A. Ulrich.
115 Acid-[illegible] [illegible]nstruments and their Importance in [illegible] Bazillen in Blasinstrumenten.) E. [illegible]
116 Theoretical Objections to Intravenous Ether Anesthesia. A. Brüning.
117 Advantages of Constriction Hyperemia after Removal of Tuberculous Glands in the Neck. (Stauungshyperämie zur Nachbehandlung nach Exstirpation tuberkulöser Halsdrüsen.) H. Mohr.
118 *A Duodenal Tube. (Eine Duodenalröhre.) M. Gross (New York).
119 *[illegible] of Hysteria. H. Goldbladt.
120 [illegible] (Klinische Beiträge zur Pathologie des [illegible] Hinkens"—der "Dysbasia angiosclerotica.") W. Erb. Commenced in No. 21.

June 7, No. 23, pp. 1209-1264

121 *Malignant Degeneration of Chronic Gastric Ulcer. (Zur Frage von der krebsigen Entartung des chronischen Magengeschwüres.) G. Hauser.
122 *Importance [illegible] Typhoid in Children in Further Spread of [illegible] [illegible]nten Typhusfälle im Ki[illegible] des Abdominaltyphus.) G. Brückner.
123 Paradoxical Movements of the Diaphragm. (Die paradoxe [illegible]) A. Bittorf.
124 Pr[illegible] of Coxa Vara. G. Hohmann.
125 *C[illegible] [illegible] Diabetes. C. Funck.
126 M[illegible] bedingt durch den Bacillus enteritidis [illegible]
127 Tuberculous Lesion in Optic Nerve. (Zur Tuberkulose des Sehnerven.) E. Reye.
128 Nature, Early Diagnosis and Encouraging Serotherapy of Typhoid. (Abdominaltyphus.) H. Lüdke.
129 Organization of Medical Literature. I. Boas.

111. **Etiology of Lupus.**—Krüger was able to isolate tubercle bacilli in scraps of lupous tissue in all of his 13 cases, using the latest technic. The positive bacteriologic findings suggest that the focus must entail active production of antibodies and this may be the explanation of the comparative rarity of new tuberculous infection in lupus patients; tuberculous lesions in the internal organs, especially in the lungs, seem to be remarkably rare in lupus patients.

118. Published in The Journal, April 23, 1910, page 1365.

119. **Symptoms of Hysteria.**—Goldbladt calls attention to the constancy of a sensation of dryness in the mouth and

throat as the most frequent sign of hysteria. He does not venture to decide whether this is a sensory disturbance or a defective secretion of saliva. An objective symptom which he has frequently encountered is a puffiness and bluish tint in the cheeks. When pronounced it looks as if a layer of a bluish pinkish powder had been applied. If not very typical, by stroking or tapping the cheek the phenomenon becomes more apparent. It may be observed in the center of the brow or sometimes over the entire face; in a few cases only in one cheek. He never found this symptom in cases of simple neurasthenia and depression but encountered it a few times in climacteric neuroses, when there was nothing to suggest hysteria. He has records of this sign of hysteria in 200 cases.

120. **Intermittent Limp.**—Erb reports a new series of 39 cases from his private practice, all but 2 in men. In his former compilation of 120 cases from his own and others' experience, only 7 of the patients were women. In this new series abuse of tobacco was evident in 19, repeated exposure to cold in 14 and abuse of alcohol in 10 or 11. There was a history of syphilis in only 3 of the 36 men. He asserts that intermittent limping—which he insists is best described as angiosclerotic dysbasia—is frequently incorrectly diagnosed, mistaken for other troubles and treated in the wrong way. This is especially dangerous on account of the possible danger of gangrene. The trouble generally develops gradually, but he gives several examples of a sudden onset. The partial or complete lack of the pulse in the foot is the one striking symptom, as also the varying behavior of the pulse, its disappearance when the feet are cold and its return after a warm foot bath or under treatment. Signs of general arteriosclerosis were evident in over 85 per cent. of the cases. The vasomotor disturbances he regards as the consequence rather than the cause of the organic obliterating arteritis responsible for the trouble. An important sign of a tendency to intermittent limping is the way in which the leg blanches when it is lifted repeatedly as the patient lies recumbent, followed by redness and hyperemia when the leg is left horizontal. This change occurs much more rapidly and pronouncedly than in health and persists very much longer. Under rest, warmth to the feet, iodid and bromid and galvanic foot baths, great improvement may be realized, even although the pulse in the feet is still imperceptible, as collateral circulation may develop. He also advises the wearing of warm stockings at night, rubbing the legs with alcohol, and other symptomatic measures and strict avoidance of all injurious influences, especially getting the feet wet, cold floors, cold douches and sea bathing, sleigh-riding and traveling in winter. Too hot foot baths and indiscriminate application of superheated air should also be avoided, as also energetic massage and the wearing of tight elastic stockings. In the severer cases the patient should be kept in bed and only when benefit is apparent should very cautious exercises be commenced. His experience shows that this combined and cautious treatment may give very satisfactory results in favorable cases. In conclusion he describes what he thinks is a new form of acute arteritis entailing sclerosis and intermittent limping. The patients were two young men suddenly developing continuous pain in one foot and typical intermittent limping but no general symptoms, no local inflammation or fever. Everything pointed to a primary affection of the arteries of the foot; in one case it developed after lying on the ground in wet clothes for an hour while hunting on a bleak day. Intense pain and the other symptoms came on two hours later.

121. **Malignant Degeneration of Gastric Ulcer.**—Hauser reports a case of scirrhous cancer of the stomach in which gastric ulcers had developed secondarily in the total absence of gastric hydrochloric acid. The peptic ulcers must have been the work of the secretion of the cancer—Neubauer and Fischer have recently demonstrated the existence of a peptid-splitting ferment in the stomach content of persons with gastric cancer. He believes that symptomless gastric ulcer and cancer are more common than generally recognized; malignant degeneration is necessarily a slow process.

122. **Unrecognized Typhoid in Children as Source for Epidemics.**—Brückner calls attention to three recent epidemics of typhoid in different communities in western Germany in which the infection was traced to a child who had had a mild gastrointestinal disturbance, so slight that medical aid was not sought. Several children who played with this child developed likewise a mild, ambulant and unrecognized form of typhoid, but from these children numbers of other cases in adults and children developed. In all these epidemics children between the ages of 11 and 15 furnished by far the largest contingent of cases. This preponderance of cases in children may explain the regional immunity observed sometimes in adults. As typhoid in children generally runs such a mild and not clinically appreciable course, this source of contagion can be eradicated only by the strictest supervision by medical school inspectors and teachers of every case of simple dyspepsia, and when general practitioners learn to look more universally for typhoid in children. An adult bacillus carrier was probably responsible for the first case in one of the epidemics reported, and in the others, hibernation of the typhoid germs, possibly in the soil or privies. Each epidemic might easily have been prevented if the first child or children had been seen by a physician or if the disease had assumed a clinically recognizable form. His experience demonstrates that typhoid is liable to be lurking beneath the most apparently harmless indigestion. It is especially suggestive when several children seem to be affected at about the same time, particularly in spring and late summer. A circular has been sent to physicians in the typhoid campaign zone in western Germany asking them to redouble their vigilance in all suspicious cases when a case of typhoid is known within the reach of their practice. In Strasburg all the physicians are notified by the health authorities by mail, a postal being sent to each with the street and number of each house where an infectious disease has been notified, T, for typhoid; D, for diphtheria, etc. Every effort is being made to teach general practitioners to rely more on bacteriologic examination from the very start in every suspicious case of indisposition.

125. **Causal Treatment of Diabetes and Glycosuria.**—Funck reports six cases of diabetes or glycosuria in which the sugar disappeared from the urine when existing gastrointestinal disturbances had been corrected by dietetic and other measures. The large glands controlling the carbohydrate metabolism may be affected by any infection or other general process or by the action of toxins generated in the body, and glycosuria may thus result as a third link in the chain. Instead of directing all one's energies to treating the glycosuria—which is only a symptom—the aim should be, he urges, to unearth the primal cause and cure it, after which the glycosuria will subside of itself. Especially effectual is treatment along these lines when the primary trouble is a gastritis or enteritis; in many such unrecognized cases the dietetic restrictions enforced for the diabetes had a direct curative influence on the causal trouble; as this was cured the glycosuria disappeared with it. He insists on the necessity for detection of the prediabetic stage; this requires examination of the urine again and again, tests of pancreas and liver functioning, and early recognition of the prediabetic symptoms, pruritus, alveolar pyorrhea, neurasthenia, etc.

Virchows Archiv, Berlin

June, CC, No. 3, pp. 385-572

130 *The Eye Changes in Leukemia.* (Augenveränderungen bei der akuten und der chronischen Leukämie.) P. Verderame.
131 ıochenbildung in der Haut.)
132 * ·tion with Hyperplasia of the Thymus. Kahn.
133 eal Mucosa. (Tracheopathia
134 Thyroid. (Eine Flimmerepithelzyste in der Schilddrüse.) R. Isenschmid.
135 *Suppurative Myelitis.* (Zur Kenntnis der eitrigen Myelitis.) K. Kawashima.
136 *Duplication Anomalies in the Kidneys.* (Doppelbildungen an den Nieren und ein Versuch ihrer entwicklungsgeschichtlichen Deutung.) H. Wimmer.
137 *Anatomic and Microscopic Findings with Infarcts in the Intestines.* (Befunde bei Darminfarzierung.) G. Pommer.

132. **Addison's Disease.**—Kahn shows by a review of the history of Addison's disease that much light has been thrown on it by the advance of science but that the changes in the

lymphatic apparatus and especially in the thymus have not been much studied to date, and no causal connection between them has been definitely recognized. He then reports a case of chronic Addison's disease in a youth with the thymolymphatic temperament. The suprarenals had been totally destroyed by a primary tuberculous process, as also in a similar case in a man of 41 with the status lymphaticus. Analysis of these cases and of similar ones in the literature seems to demonstrate a mutual stimulating action between the thyroid and the suprarenals and between the thyroid and the thymus, while there is a mutual inhibiting action between the suprarenals and the thymus. This assumption clears up, he says, some of the obscure features in both Addison's disease and exophthalmic goiter.

Wiener klinische Wochenschrift, Vienna

May 26, XXIII, No. 21, pp. 763-796

138 *Clinical Importance of Differentiation of Effusions and Transudates by Response to Acetic Acid. (Klinische Bedeutung des Essigsäurekörper-Nachweises in serösen Flüssigkeiten.) H. Popper and E. Zak.
139 Comparative Chemical Researches on the Brain. (Vergleichend-chemische Gehirnuntersuchungen.) K. Linnert.
140 *Bradycardia, Hypotonicity and Hypotonic Bradycardia. M. Herz.
141 Treatment of Bronchiectasia by Artificially Induced Pneumothorax. (Ueber Pneumothoraxtherapie bei Bronchiektasien.) O. Frank and N. v. Jagic.
142 Ovarian Pregnancy. (Ueber Ovarialgravidität.) J. Bondi.
143 *Resection of Posterior Spinal Roots for Gastric Crises in Tabes. (Zur Foersterschen Operation bei gastrischen Krisen.) A. Götzl.

June 2, No. 22, pp. 797-838

144 Consciousness and Intoxication. (Bewusstsein und Intoxikation.) E. Raimann.
145 *Transparency of the Skull with Congenital Hydrocephalus. (Ueber die praktische Bedeutung der Strasburgerschen Transparenzuntersuchung bei Hydrocephalus congenitus.) J. v. Bokay.
146 *Pathology of the Suprarenals. (Zur Pathologie der Nebennieren.) M. Goldzieher.
147 Prolongation of First Phase of Ether Anesthesia. (Ueber protrahierten Aetherrausch.) V. Schiller and J. Micen.
148 Experimental Research on Epidemic Poliomyelitis. IV. C. Leiner and R. v. Wiesner.
149 Behavior of Spermatozoa in Female Genital Tract. (Ueber das Verhalten der Spermatozoen im weiblichen Genitaltrakt bei Effluvium seminis.) K. Natanson and H. Königstein.

138. Acetic-Acid Precipitation in Effusions, Etc.—Popper and Zak report experiences which confirm the diagnostic importance of the determination of the albuminoid in organic fluids precipitated by dilute acetic acid. The technic is similar to Rivalta's test, but Moritz merely adds the drops of the 5 per cent. acetic acid to the fluid being examined. The fluid becomes turbid in case it contains much of the albuminoid. Non-inflammatory edema fluid gives no reaction but an inflammatory irritation soon produces a large amount of the substance giving the acetic-acid reaction. A negative reaction in the cerebrospinal fluid apparently excludes inflammatory irritation of the meninges.

140. Bradycardia with Low Blood Pressure.—Herz has been examining the records of patients with bradycardia or low blood pressure or both out of 1,000 patients with heart or vascular troubles—a total of 157 cases. Analysis of this material shows that a low blood pressure with heart symptoms—if insufficiency of the myocardium can be excluded—speaks for the purely functional nature of the heart trouble. Extrasystoles are almost never encountered with low blood pressure except in cases of heart neuroses. The predominant symptoms with the nervous low blood pressure are painful sensations in the region of the heart; with nervous bradycardia, palpitations, and with bradycardia accompanied by low blood pressure, general weakness. With bradycardia accompanied by low blood pressure there may be an actual "nervous" heart weakness, with or without albuminuria and edema.

143. Division of the Spinal Roots in Treatment of Gastric Crises.—Götzl reports the third case on record of the cure of the gastric crises in tabes by dividing the posterior spinal roots, confirming the benefit from intradural resection of some of the spinal roots in relieving the intolerable visceral pains in tabes. The healing of the wound was disturbed by a serous discharge for a few weeks. He discusses the anatomic basis for the phenomena observed and adds that ataxia and joint disturbances should not deter from the operation if the gastric crises become intolerable, but the poor prospects for healing of the wound justify it only as a last resort when addiction to morphin is otherwise inevitable.

145. Transparency of the Skull with Congenital Hydrocephalus.—The experience of von Bokay has confirmed the peculiar transparency of the part of the head where there is much hydrocephalus. He gives colored plates of three cases and the autopsy in two confirmed the clinical findings in regard to the deposits of fluid. In a darkened room the bones of the skull are transparent for the electric light but the brain tissue is opaque and the skull is transparent only where the brain is very much thinner than usual. In the transparent regions, the wall of the hemisphere was in places only a few mm. thick. This transparency permits location of the hydrocephalus and proves a guide for operative measures.

146. Pathology of the Suprarenals.—Goldzieher reports research which shows that the normal average epinephrin content in the human suprarenals is about 4 mg., while with arteriosclerosis the average amount was 5.8 mg. and with chronic nephritis 5.79 mg. On the other hand, in septic disturbances with low blood pressure, the average was only 1.5 mg. This loss of epinephrin was manifest in pneumonia, puerperal fever, meningitis and other septic processes, showing that it is merely a general reaction of the suprarenals to infections. The changes in the suprarenals may be a swelling of the parenchyma, cystic degeneration or development of hemorrhagic infarcts—all the changes being serious and explaining the disturbance or total arrest of suprarenal functioning in infectious diseases. This leads to an abnormally small proportion of epinephrin in the blood and this is clinically manifested by a lessened blood pressure. The collapse in septic affections is probably due chiefly to the lessened blood pressure resulting from the acute suprarenal insufficiency.

Zentralblatt für Chirurgie, Leipsic

June 11, XXXVII, No. 24, pp. 817-848

150 *Exposure of Base of Skull by Temporary Resection of Soft Palate. (Die Freilegung der Schädelbasis durch temporäre [illegible]) C. Hofmann.
151 [illegible] from the Eye in Plastic Restoration [illegible] (Benutzung der Bindehaut des [illegible] Verschluss von Defekten der Nase.) O. Sprengel.
152 *Technic for Conservative Arthrotomy. (Kniegelenkseröffnung.) O. I. Lauper.

150. Exposure of Base of Skull by Resection of Soft Palate.—Hofmann found that he was unable to obtain access to a tumor at the base of the skull by a median incision in the soft palate, and consequently in a recent case he carried the incision across the front of the roof of the mouth and along just inside the teeth to the rear, thus permitting the turning back of almost the entire roof of the mouth in a single flap. The pedicle of the tumor was in the region of the sphenoidal sinus and when this was severed the tumor almost dropped out of itself. The left common carotid had been ligated beforehand but he thinks that this precautionary measure might be dispensed with. The replacing and suturing of the flap were much less difficult than suturing a median incision in the palate.

152. Conservative Arthrotomy.—Lauper refers in particular to the knee and commends his technic of internal oblique incision, for a distance of 12 cm., slanting from above outward, a finger's breadth from the patella, and opening the capsule over the condyle of the femur without disturbing the joint proper, merely separating the periosteum and the capsule from the femur forward until past the median line, but not back toward the rear. Then with a little force it is easy to dislocate the patella outward without twisting it, merely pushing it outward by pressure on the external condyle. The knee is then flexed which permits extensive oversight of all its parts, both condyles, the inner articulating surface of the tibia, both crucial ligaments, and the median meniscus. When the leg is stretched the patella slides back spontaneously into its place. In the case described a sequester was removed and a glass drain introduced into the bursa below the quadriceps. It was removed in two days. Healing was complete in two weeks without impairment of function.

Zentralblatt für Gynäkologie, Leipsic

June 11, XXXIV, No. 24, pp. 801-832

153 Operation for Large Rectovaginal Fistulas. H. Thomson.
154 *Advantages of Prophylactic Appendicectomy. (Appendicitis mit Abszess im Uteruskörper nach einer vorher ausgeführten Ovariotomie: Beitrag zur Frage der prophylaktischen Appendektomie.) A. Grasmück.
155 Technic for Ca[illegible] Abdominal Cavity. (Drainage der [illegible]
156 *Stretching the P[illegible] (Ueber Beckendehnung der Krei[illegible]

154. **Prophylactic Appendicectomy.**—Grasmück reports a typical case to emphasize the perils from not removing an exceptionally long appendix when the abdomen has been opened for any cause. In his case the appendix had become adherent to the body of the uterus and an abscess had developed at this point in the uterus. The appendix was fully 12 cm. long, and this unusual length should have compelled its removal, Grasmück declares, at an ovariotomy done three years before for cystic degeneration of the right ovary.

156. **To Enlarge the Pelvis during Delivery.**—Krug comments on the beneficent arrangement by which Nature seeks to facilitate childbirth by serous imbibition in the cartilages of the pelvis, loosening up the joints and ligaments and permitting them to stretch. In a recent case in which the labor contractions were vigorous but the smallness of the outlet prevented the expulsion of the fetus, he introduced the three middle fingers of the right hand into the vagina and placed one finger on each of the bone protuberances, and then introduced the left hand in the same way. Then as the labor contraction came on he pressed with might with the tips of the three fingers on each side against the bones, exerting the stretching force all in the direction of the transverse diameter of the pelvis, lifting the pelvis a little as he did so. Repeating this procedure for six labor pains, the child was speedily safely delivered. The patient said that it much reduced the pain of the contractions.

Zentralblatt für innere Medizin, Leipsic

June 11, XXXI, No. 24, pp. 601-624

157 Digestive Leucocytosis in Laboratory Animals. (Die Verdauungsleukocytose beim Laboratoriumstiere.) C. Kilieneberger and W. Carl.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 24, XXXI, No. 62, pp. 657-664

158 Premonitory Swelling of Glands with Acute Infections. (Segnó clinico premonitorio di diagnosi di malattia infettiva acuta.) G. de G Giunta.
159 *Increased Phagocytic Power of the Leucocytes from Syphilitics in Presence of Syphilitic Serum. (Nuovo mezzo di leucodiagnosi della sifilide.) G. Burzi.

May 31, No. 65, pp. 689-696

160 *Castration Reduces Sensibility of Rabbits to Strychnin and Tetanus Toxin. (Castrazione e veleni convulsivanti.) T. Silvestri.

June 2, No. 66, pp. 697-704

161 *Bullet Lodging Harmlessly in Heart. (Ferita dell'arteria polmonare.) C. Viscontini.

June 5, No. 67, pp. 705-720

162 *Method of Making an Artificial Sphincter. (Sopra la possibilita di creare a scope chirurgico uno sfintere artificiale.) G. Ferrarini.

June 7, No. 68, pp. 721-728

163 Catheterization of Ureter as Means of Dislodging Calculi. (Sul cateterismo cistoscopico come mezzo terapeutico dell'anuria calcolosa.) F. Cuturi.

June 9, No. 69, pp. 729-736

164 *Scopolamin as Aid in Spontaneous Reduction of Strangulated Hernia. (La riduzione incruenta dell'ernia strozzata favorita dal bromidrato di scopolamina.) A. Luxardo.

June 12, No. 70, pp. 737-752

165 Technic for Operative Treatment of Varicocele. G. Masera.

159. **Leucodiagnosis of Syphilis.**—Burzi found that the phagocytic activity of the leucocytes, tested with spores of the *Oidium albicans*, was materially enhanced by adding serum from a syphilitic to the test mixture. This stimulating action was never observed with normal serum.

160. **Influence of Castration on the Action of Poisons Causing Convulsions.**—Silvestri has long called attention to the importance of the calcium salts in the origin and treatment of a tendency to convulsions; his assertions in regard to the altered metabolism of calcium as the principal factor in epilepsy, eclampsia and tetany have been often cited in these columns. The influence of the thyroid, ovary and testicle on the lime metabolism seems to have been established by recent research, which he here reviews in detail, commenting especially on the fact that a lack of the proper proportion of lime may be the effect of the glands which promote this metabolism or of the defective functioning of those which check it. The influence of the ovaries on the lime metabolism has long been known, and he here reports experiments to determine the influence of the testicles in this line. Their removal seems to have as important an effect on the skeleton as removal of the ovaries. The clinic and the laboratory have shown the favorable action of lime salts on the tendency to convulsions and as neutralizing the action of strychnin and tetanus toxin, and recent research has shown retention of the phosphates and of lime in castrated animals; so he undertook research which has demonstrated that removal of the testicles or ovaries in rabbits rendered them very much less sensitive to injection of strychnin or tetanus toxin, injected a few days to two weeks later, in a dose rapidly fatal for the controls. He has a patient who developed epilepsy at puberty which became aggravated on marriage and pregnancy but ceased entirely after double ovariectomy four years ago. Another patient, an epileptic for years, has had no seizures since removal of the testicles on account of a tuberculous process. For these and other reasons enumerated, Silvestri suggests research on the course of epilepsy in eunuchs and others after castration, with a view to possible therapeutic castration in epilepsy, if wider experience confirms the results of his experiments on rabbits.

161. **Bullet Lodging Harmlessly in Heart.**—A young man was shot in the back, the bullet passing through the third dorsal vertebra, severing the spinal cord, grazing the esophagus and bringing up against the wall of the pulmonary artery into which it finally perforated and at last dropped into the right ventricle where it was found at autopsy six months after the accident, the patient succumbing to complications of the paralysis resulting from the injury to the spinal cord. There were no symptoms discoverable from the presence of the bullet in the artery and heart. The only similar case that Viscontini has been able to find on record is that of Tegeler in which a bullet entering the aorta had lodged in the aortic valve but caused no disturbances except an accentuated diastolic sound. These cases emphasize the remarkable tolerance of the heart for even comparatively large foreign bodies.

162. **Technic for Artificial Sphincter.**—Ferrarini has been applying on dogs the artificial sphincter suggested by Girard and Tusini some years ago. A bunch of fibers on each side of the incision is drawn over to the opposite side and sutured, the result being an oval opening between the crossed fibers, the crossing enhancing their contracting and constricting power. He found that this elastic artificial sphincter admirably ensured continence even notwithstanding the fact that the muscle tissue is soon substituted by scar tissue. The latter retains the properties of contractile tissue sufficiently to answer the purposes desired.

164. **Spontaneous Reduction of Incarcerated Hernia Under Influence of Scopolamin.**—Luxardo has found that a very small dose of scopolamin may act on the ganglia of the intestines sufficiently to permit the spontaneous reduction of an incarcerated hernia. He found 5 or 10 decimilligrams ample for the purpose in the four cases reported, the inguinal hernia in each case smoothly subsiding in from 30 minutes to two hours. This was aided materially by the displacement of the gases above under the influence of the drug.

Policlinico, Rome

June 12, XVII, No. 24, pp. 739-770

166 Bacteriologic Study of Fish Poisoning. (Contributo allo studio dell'ictiosismo.) M. Pergola and A. M. Collodi.
167 Hemoglobinometer. Belosersky.

Riforma Medica, Naples

May 23, XXVI, No. 21, pp. 561-588

168 Lactose in Saliva of Nurslings. (Ricerche sulla lattasi nella saliva del lattante.) G. B. Allaria.
169 [illegible] the Effects of Lesions of the Pan[illegible] erimentale allo studio degli effetti del pancreas.) L. Fioravanti.
170 *Senile Chlorosis. A. Conti.

170. Senile Chlorosis.—Conti had three patients between the age of 57 and 60 with general progressive weakness, lack of appetite, slight edema and pallor, for which no cause could be discovered until examination of the blood revealed typical chlorosis, with rapid recovery under iron. When one preparation of iron failed to benefit, another answered the desired purpose. He advises changing the preparation in three or four weeks or changing the method of administration, the physician having the choice between the gastric, hypodermic and intravenous routes; sometimes a rapid cure may follow a mere change from one to another ordinary preparation.

Hygiea, Stockholm

March, LXXII, No. 3, pp. 225-336

171 *Clinical Experiences with the Wassermann Reaction in 700 Cases. H. C. Jacobaeus. Commenced in No. 2.
172 The Maximal Doses in the Swedish Pharmacopeia for Potent Drugs. (Om maximaldoserna för en del af vora mera ofta använda heroica.) H. Enell.

April, No. 4, pp. 337-432

173 *Adenoid Vegetations and Tuberculosis. E. Wikner.
174 *Autopsy of a Typhoid Bacillus Carrier. (En tyfusepidemi genom en bacillbärare.) I. Jundell.
175 The Importance of Hypnotism in Treatment of Mental Disease Still an Open Question. (Kan hypnotismen få någon betydelse i sinnessjukdomarnas terapi?) E. af Geijerstam.

May, No. 5, pp. 433-592

176 *Local Treatment of Tuberculosis with Combined Action of Sodium Iodid and Ozone. ([illegible] tuberkulos i svalget och struphu[illegible] genom användning af en ny [illegible] tion af nya fall, behandlade med $NaJ + O_3$, jämte ytterligare några ord om denna behandlingsmetod.) S. A. Pfannenstill.
177 [illegible] and Tuberculosis. (Till kännedomen om [illegible] ige Tuberkulose des lymphatischen Ap- [illegible] tenstein.

171. Wassermann Findings in 700 Clinical Cases.—In 13 cases of liver disease a dubious reaction was obtained in 2, but all the other patients reacted positively. A tumor was palpable in 4 cases and in 2 surgical treatment had been mistakenly applied. In 4 of these cases the spleen was considerably enlarged, but there was no jaundice in any case. Periodically recurring fever was observed in only one case but there was fever at times in several. In one case the liver had evidently been previously injured by abuse of alcohol as the liver disease developed in a serious form only 4 months after syphilitic infection, and 25.5 liters of ascitic fluid were withdrawn at the first tapping. The liver and peritoneum were probably affected in somewhat the same way as the skin; this view is sustained by the rapid improvement under specific treatment; the ascites disappeared more promptly than the liver symptoms. In one case of liver syphilis, the blood findings and other symptoms suggested Banti's disease and in two others this had been the diagnosis elsewhere. The positive Wassermann reaction in 3 out of 4 cases of supposed Banti's disease is suggestive, also the rapid recovery under antisyphilitic measures and the fact that no benefit was derived from them in the one case with a negative reaction. It seems evident that the Banti syndrome is in a certain proportion of cases a form of syphilis affecting the liver and spleen. In a number of the 13 cases of liver affections giving a positive reaction there were gastro-intestinal symptoms. A positive reaction was obtained also in 3 out of 5 cases of Mikulicz' disease. In 74 cases of syphilis of the nervous system a positive reaction was obtained only in about 50 per cent. of the cases in which treatment had been applied systematically, while it was positive in over 88 per cent. among the untreated patients. In 2 cases of typical tabes the reaction was negative and the patients also denied syphilitic infection and had never taken any specific treatment. A negative reaction in the absence of a history of syphilis and of specific treatment is decisive but not under other conditions. Jacobaeus' experience confirms the importance of continuing treatment as long as the reaction is positive, even after subsidence of all clinical manifestations. But a negative reaction does not have much significance and with it the clinical manifestations should govern treatment. The histories of the various cases are given in detail. The proportion of positive reactions in 100 cases of cardiovascular disease was surprisingly large; especially with aortic insufficiency.

173. Adenoid Vegetations and Tuberculosis.—Wikner found evidences of tuberculosis in the growths in only 1 of 27 cases of adenoid vegetation, and in this case it was manifestly secondary.

174. Autopsy of Typhoid Bacillus Carrier.—Jundell found the gall-bladder and small intestine crowded with typhoid bacilli in the case described. The gall-bladder was comparatively normal and yet the bacilli were found in incredible numbers and in pure culture. The blood and urine were sterile. The patient was a healthy woman of 83 who had beyond question been the source for a number of cases of typhoid in her environment in the course of the last twenty years.

176. Two-Route Treatment of Localized Tuberculous Processes.—Pfannenstill calls attention to the remarkable benefit derived in laryngeal and other accessible tuberculous processes from a method of treatment based on the principle of generation of a powerful antiseptic substance by the chemical union within the tissues of two substances introduced by different routes—one brought to the tissues by the blood, the other with inhaled air or otherwise. A chemical reaction results on and in the tissues. He has been experimenting in this line since 1890, and thinks that the combination of sodium or potassium iodid for the blood-brought element and ozone for the inhaled gaseous element answers the purpose admirably. The chemical union resulting liberates iodin in nascent form.

He describes a number of instructive cases demonstrating the remarkable curative efficacy of this method of treatment. The action is necessarily restricted to localized infectious processes, particularly in the upper air passages, of either tuberculous or syphilitic origin. The iodid is taken by the mouth, the ozone inhaled.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

THE DIAGNOSIS OF SMALLPOX. By T. F. Ricketts, M.D., Medical Superintendent of the Smallpox Hospitals and of the River Ambulance Service of the Metropolitan Asylums Board. Illustrated from Photographs by J. B. Byles, F.R.C.S., Senior Assistant Medical Officer at the Smallpox Hospitals of the Metropolitan Asylumns Board. Cloth. Price, $6 net. Pp. 154, with 136 illustrations. New York: Funk and Wagnalls Co., 1910.

AMERICAN PRACTICE OF SURGERY. A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Edited by Joseph D. Bryant, M.D., and Albert H. Buck, M.D. Complete in Eight Volumes. Volume VII. Cloth. Price, $7. Pp. 961, with 396 illustrations. New York: William Wood & Co., 1910.

RADIUMTHERAPY. By Dr. Louis Wickham, Physician in Saint-Lazare, and Dr. Degrais, Chief of the Laboratory in the Hôpital Saint-Louis. Translated by S. Ernest Dore, M.D., Cantab. With an Introduction by Sir Malcolm Morris, K.C.V.O. Cloth. Price, $5 net. Pp. 306, with 92 illustrations. New York: Funk and Wagnalls Co., 1910.

A MANUAL OF PERSONAL HYGIENE. Proper Living on a Physiologic Basis. By American Authors. Edited by Walter L. Pyle, M.D., Member of the American Ophthalmological Society. Fourth Edition. Cloth. Price, $1.50 net. Pp. 472, with 131 illustrations. Philadelphia: W. B. Saunders Co., 1910.

DAS KYSTOSKOP. Eine Studie seiner optischen und mechanischen Einrichtung und seiner [illegible] Lehrbuch für Aerzte und Studierende. Von Dr. Otto [illegible] für Urologie in Berlin. Paper. Price, 7.50 marks. Pp. 194, with [illegible] illustrations. Leipsic: Dr. Werner Klinkhardt, 1910.

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THE STATUS OF VACCINE AND SERUM THERAPY IN OPHTHALMOLOGY[*]

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The immunization treatment of infectious diseases is conducted by the introduction into the system of (a) substances—antigens—which stimulate the tissues to the production of antibodies ("active" immunization); and by the introduction of (b) antibodies that are already formed ("passive" immunization). To the first class of substances belong tuberculin and the bacterins; to the second the serums (substances containing antibodies). If the powers of the tissues of an individual are exhausted so that they can no longer respond to the stimulus of an antigen it is useless and even deleterious to introduce the antigen. Hence the necessity for knowing the condition of the individual in this respect and of avoiding overdosage. In the introduction of antibodies (serums) the conditions of the tissues relative to their ability to develop antibodies is not a part of the question. The problem here is how much of antibodies is required and how much the tissues will tolerate without injury. It will be seen that "active" immunization will be efficient or of no value in proportion to the ability of the tissues to respond and in proportion to the proper estimation of the dosage, always provided that the antigen is suitable. Broadly speaking, bacteriemia is an indication that the tissues are exhausted and that they will not respond to added antigen. In the second case it is a question of proper antibody and proper dosage.

VACCINES (BACTERINS)

TUBERCULOSIS

In the treatment of tuberculosis of the eye various tuberculins are employed.

1. Koch's original tuberculin, "T. O.," is a filtrate of an emulsion of bouillon culture of tubercle bacilli, containing products of the growth of the bacilli, substances extracted from the bacilli and the unaffected constituents of the bouillon. In process of preparation it is heated to a temperature of 70 to 90 C.; the heating is thought to impair its therapeutic value.

2. Koch's new tuberculin, "T. R.," is a centrifugalized extract of dried tubercle bacilli. The sediment obtained by centrifuging is dried, reground and dissolved in glycerin and water.

3. Bacillus emulsion, "B. E.," is made by filtering off the liquid of the bouillon culture and washing, drying and triturating the bacilli in a mortar until no whole bacilli remain. The powder is taken up in 0.8 per cent salt solution and added to 50 per cent. glycerin water so that 1 mg. of the powder is contained in 0.2 c.c. of the final preparation. The emulsion is subjected to a temperature of 60 C. in order to destroy any possible intact bacilli.

4. Bouillon filtrate, "B. F." (Denys), is the unheated filtrate of bouillon cultures of human tubercle bacilli.

It will be noted that the tuberculins are closely allied to bacterins; in fact, Koch's new tuberculin, "T. R.," and bacillus emulsion, "B. E.," are virtually bacterins.

Tuberculins may be prepared from bovine or human strains of the tubercle bacilli, may be used separately or may be combined in any proportion.

In any given case of ocular tuberculosis, it is desirable to ascertain the strain of bacillus responsible for the disease. If this is impossible, it is feasible to employ the tuberculin from the human or the bovine strain, whichever will give the best results; or a mixed tuberculin may be used.

As is well known, it is often necessary to resort to the reaction of the system or tissues in tuberculosis to make a diagnosis of tuberculosis of the eye, either by hypodermic injection by the conjunctiva (Calmette) or cutaneous (von Pirquet) test. It is now generally admitted that the only test that is of any value is that which induces a local reaction in the eye following the subcutaneous injection of tuberculin. A reaction to tuberculin, by whatever method employed, implies that there is a tuberculous focus in some part of the body, but unless the reaction is evident in the eye, there is absolutely no proof that the disease of the eye is tuberculous. Increased hyperemia of the ocular conjunctiva or of the growth and the surrounding tissues must occur. If this reaction takes place, the diagnosis is positive. If it does not take place, the probabilities are that the person is not tuberculous, but the possibility is not excluded.

The method of obtaining the general (and local) reaction of tuberculin by subcutaneous injections of tuberculin is admirably described by Dr. Trudeau as follows:

> The range of the patient's temperature is ascertained by taking it at 8 a. m., 3 p. m., and 8 p. m., for three days before making the test. The first injection should not exceed 0.5 mg., and if any fever is habitually present should even be less, and is best given early in the morning or late at night, as the typical reaction usually begins, in my experience, within six to twelve hours. Such a small dose, while it will often be sufficient to produce the looked-for rise of temperature, has under my observation never produced unpleasant or violent symptoms. An interval of two or three days should be allowed between each of the two or three subsequent injections it may be necessary to give, as reaction in very rare cases may be delayed for twenty-four or even thirty-six hours. On the third day a second dose of 1 mg. is given, and, if no effect is produced, a third dose of 2 mg., three days later. In the great majority of cases of latent tuberculosis an appreciable reaction will be produced by the

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[*] Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

> time a dose of 2 mg. has been reached. If no effect has been caused by the tests applied as above, I have usually gone no farther and concluded that no tuberculous process was present. If some slight symptoms, however, have been produced by a dose of 2 mg., it may be necessary to give a fourth injection of 3 mg. in order to reach a positive conclusion. Nevertheless it should be borne in mind that in a few cases the exhibition of even larger doses may cause reaction, when the smaller do not, and indicate the existence of some slight latent tuberculous lesion, and the negative result should not, when applied within the moderate doses described, be considered absolutely infallible. It is evident that the size of the doses given has much to do with the limitations of this method for usefulness, and the correctness of the conclusions reached by its application. The tuberculin used is also a matter of some importance, in determining the dosage, as different samples vary considerably in their efficiency. If the test be pushed to the injection of such large amounts as 10 mg. or more, as advocated by Maragliano, such doses are by no means free from the objection of occasionally causing unpleasant and sometimes dangerous symptoms; and even if the amount given be not carried to the dose of 10 mg., which is known to produce fever in healthy subjects, it is likely that on account of individual susceptibility or the presence of some other morbid process in the body, reaction will be found to occur with the larger dose when no tuberculous process exists. The adoption of an initial dose so small as to guard against the absolute possibility of producing violent reactionary symptoms, and the graded increase of the subsequent doses within such quantities as are known never to produce reaction in healthy individuals, would seem to afford the best protection against unpleasant results and misleading evidence.

In the tuberculin treatment of tuberculosis of the eye, tuberculin "T. O." is used but little for therapeutic purposes because of its having been subjected to a quite high temperature. "T. R." and "B. E." apparently possess greater therapeutic value, although they may have been subjected to a temperature of 50 C. for a short time. "B. F." is thought to be the most efficacious.

The method of treatment (the diagnosis having been made) at present advocated by those of large experience is the method of von Hippel, beginning with a very small dose of "T. R.," "B. E." or "B. F.," not more than 1/500 mg., and increasing by 1/500 mg. each dose; the dose to be given every third day if no general reaction has been occasioned in the early treatment of the case; less frequently as the patient improves. The tuberculin should not be given if there has been any reaction until the temperature has returned to normal and has remained so for at least forty-eight hours. It is advised so to regulate the dose that the effect on the patient is just short of the general reaction. As the treatment advances, a larger dose will be tolerated, but the maximum dose should not exceed one milligram.

The tuberculin, properly diluted, is injected subcutaneously into the subcutaneous areolar tissue of the abdomen, subscapular region, or arm after the skin at point of puncture has been thoroughly rubbed with 95 per cent. alcohol. The puncture may be subsequently sealed with collodion.

In an article which I recently presented to the Section on Ophthalmology, Sixteenth International Medical Congress at Budapest, fifty-eight cases of tuberculosis of the eye, including tuberculosis of the eyelids, conjunctiva, cornea, sclera, iris, chorioid, and retina were cited. These cases occurred in the practice of ophthalmologists in the United States and Canada. Of this number, virtual cures were observed in thirty-five and improvement in fifteen cases. The form of tuberculosis that is least amenable to treatment is the conglomerate tubercle. This form occurs in the vascular tunic of the eyeball and in the optic nerve.

The preparations of dead bacteria used for inoculating individuals are termed vaccines. It has been conclusively proved that a vaccine which is prepared from the same strain of bacteria (autogenic), against which the vaccine is to be used, is the most efficient in the particular case. In other words, the vaccine is specific for the strain from which it is made. If this strain cannot be obtained for making the vaccine, some complementary element may be found in each of a number of heterogenous strains, the sum of which may almost equal the specific strain. The latter are termed "polyvalent" vaccines or "stock" vaccines.

Wright advises injecting the vaccine in the loose subcutaneous tissue as near the site of the lesion as possible and "up-stream" as regards the flow of the lymph, in order that the "opsonins" resulting may be carried as directly as possible to the disease area in the lymph-stream. The sites usually selected are the loose tissue of the back, the lumbar region, or the groin.

GONOCOCCIC VACCINE

As this micro-organism is not readily cultivated it is difficult to obtain autogenous vaccine. "Stock" gonococcic vaccine occurs on the market in bottles containing 1 c.c. of an emulsion in two strengths, one of 20,000,000 and one of 100,000,000. In regard to the dose, Cole and Meakins[1] gave an initial dose of 300,000,000 gonococci, and a dose of 1,200,000,000 did not produce any unfavorable symptoms. They say: "In no case have we seen the administration of gonococci vaccine do harm." It must be remembered that vaccines are antigens, and that their capacity to excite the development of antibodies depends on the capacity of the tissues to react to their stimulus and not on the size of the dose. It is held by the Wright school that the condition of the tissues in this respect can be determined by a study of the "opsonic index;" this study requires the time of a skilled laboratory worker, which is not always at the command of the clinician.

Many clinicians are of the opinion that the opsonic index does not furnish data that are of any more value than the clinical manifestations; they rely on the local and general reaction occasioned by the vaccine and the effects on the course of the disease. Although large doses of gonococcus vaccine are well tolerated, the tendency now is to give smaller doses than formerly; it may range from 2,500,000 to 50,000,000. In a case of metastatic gonorrheal iritis which I recently treated successfully the initial dose was 2,500,000, subsequent dose 5,000,000 each.

Gonococcic vaccine is regarded as valuable as an aid to the diagnosis of obscure affections due to the gonococcus. Irons[2] writes:

> A typical gonococcus reaction is characterized by a rise in temperature, often only slight . . . and a variable degree of malaise. The symptoms follow the injection in from eight to twelve hours and commonly last about twenty-four hours. Frequently there is a decided tenderness at the site of the injection, greater than occurs after the inoculation of the same dose of the same preparation in normal subjects. Occasionally there is a marked redness and edema, lasting from twenty-four to forty-eight hours. . . The degree of reaction is influenced by several factors. After small doses (20,000,000 to 50,000,000) the reaction was not marked, and in a number of early cases either did not occur or was overlooked . . . The reaction is in many subjects similar to that which follows injections of tuberculin in cases of tuberculosis.

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[1] Cole and Meakins: Bull. Johns Hopkins Hosp., June and July, 1907.

[2] Irons: Jour. Infect. Dis., June 4, 1908.

In obscure cases of uveitis, iritis and metastatic conjunctivitis, the gonococcic vaccine promises to be of service in clearing up the etiology.

It is now generally recognized that gonococcic vaccine is of little value in acute gonorrheal infection either of the urethra or of the eye. Of seventy-nine cases of acute urethral gonorrhea tabulated by Duncan[3] "satisfactory" results were obtained in nine, slight improvement noticed in ten, no improvement in sixty. The cases of acute gonorrheal infection of the conjunctiva treated with gonorrheal vaccine known to me are only three in number. In thirteen cases of chronic gonorrhea occurring in females, satisfactory results were obtained in eleven; no result in two. Of forty-six cases of gonorrheal arthritis, satisfactory results were obtained in forty-two; no result in four (Duncan). Of chronic gonorrheal affections of the eye, Posey (personal communcation) reports a severe case of uveitis not benefited, and Dr. S. Hanford McKee three cases of metastatic gonorrheal conjunctivitis. All ran a mild course. The vaccine appeared to relieve the pain greatly in the joints affected with gonorrheal rheumatism in these patients.

Two cases of gonococcal iritis in patients with arthritis in which fluid from the synovial sacs gave gonococci were reported to me by Dr. Charles A. Oliver. On the use of gonococcic vaccine "both cases showed some local reaction with marked recrudescence of joint lesions. The first improvement was probably more rapid than I have formerly seen, but of this I am uncertain."

I have recently treated a case of double metastatic gonorrheal iritis occurring in a negro of 23 years who had a gleet. In the right eye the anterior chamber was about one-quarter full of plastic lymph; in the left eye there was very little plastic lymph. The patient was admitted to the New York Eye and Ear Infirmary. Rest in bed and atropin were the only measures employed other than the vaccine. The initial injection was one of 2,500,000 followed in twelve hours by a similar dose; twenty-four hours later a dose of 5,000,000, which was repeated in twenty-four to forty-eight hours. Recovery occurred in about twelve days. Some of the plastic lymph was removed from the anterior chamber of the right eye. It did not show gonococci, nor were cultivations obtained on blood-agar. The discharge from the gleet showed gonococci.

From the evidence adduced it is very well proved that gonococcic vaccine is a valuable therapeutic agent in the treatment of the manifestations of chronic gonorrhea.

STREPTOCOCCIC VACCINE

Streptococcic vaccine is put on the market in 1 c.c. quantities, the strength of the preparation being indicated on the package. The dose recommended by Sir A. E. Wright is 10 to 20 millions, the minimum dose to be the initial dose, this to be increased according to the toleration of the patient; injections to be intramuscular.

In 58 cases of erysipelas tabulated by Duncan,[3] seven patients were "cured;" in fifty the result was "satisfactory," and in one no result was obtained. This vaccine may be of value in cases of erysipelas affecting the eye. C. R. Holmes has employed the vaccine in erysipelas. "Some cases were greatly modified, but in none of them was there any decided result."

STAPHYLOCOCCUS VACCINE

With the staphylococcus, as with almost all micro-organisms, it is the opinion of clinicians that the vaccine made of the "autogenous" strain gives better results than vaccine made of a number of heterogenous strains combined (polyvalent).

It is well known that the staphylococcus is a factor in the production of the eczematous processes of the lids, conjunctiva and cornea of some abscesses of the lid of some forms of blepharitis marginalis, and of suppurations of the globe after traumatism of whatever kind.

The following cases of the use of staphylococcic vaccine have been reported:

Alexander Duane of New York reports a case of sluggish purulent infection of the eye. Hypodermic injections of a polyvalent vaccine of the *Staphylococcus aureus* were given with apparently good results. Six injections were given in seventeen days, beginning with a dose of 240,000,000.

Frank C. Todd of Minneapolis reports one case of chronic hordeola, with pustules on the face and eczema around the nostrils. The patient had been treated for this condition from time to time for five years. Hypodermic injections of an autogenic vaccine of *Staphylococcus aureus* were followed by complete recovery.

Charles A. Oliver of Philadelphia has employed autogenic vaccine of the *Staphylococcus albus* in cases of recurrent hordeoli, injecting in the corresponding arm and upper dorsal region with apparent good results.

H. Gradle of Chicago has treated a number of cases of eczematous conjunctivitis and keratitis, with eczema about the nares, with autogenic staphylococcus vaccine with very successful results, not only as regards recovery from the local disease but also in improvement of the general condition of the individuals.

COLEY'S TOXIN

Coley's toxin is in reality a bacterin or vaccine composed of a mixture of *Streptococcus pyogenes* and *Bacillus prodigiosus*.[4] The method of preparation is described in Coley's article.[5]

The initial dose should be ¼ minim, diluted with a few drops of sterile water, hypodermically injected, remote from the tumor. After a few injections, if the reaction is not great, the toxins in the same dose may be injected into the growth. The reaction when the toxins are injected into the growth is greater than when it is injected remote from the growth. Coley states that "the dose should be gradually increased by ¼ minim when injected into the tumor, by ⅓ to ½ minim when injected outside the limits of the tumor, until the desired reaction is obtained. The best results are obtained by doses sufficiently large to produce moderately severe reactions, a temperature of 102 F. to 104, with or without chills." The dose is repeated when the temperature reaches the normal.

Coley states that carcinoma is not influenced by the treatment, and he has not had a recovery in melanotic sarcoma. He reports having treated 430 cases of inoperable sarcoma with the mixed toxins. In forty-seven cases the growth completely disappeared; in twenty-eight cases a period of from three to fifteen years has passed since the disappearance. The treatment has also been employed as a preventative to recurrence after operation, with apparent good results.

A number of brief reports of cases affecting the eye or orbit have been obtained.

W. E. Jack, Boston, Mass.: Sarcoma of orbit; toxins injected into the growth and into the arm. Local reaction occurred when the toxins were injected into the growth. Result negative.

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[3] Duncan: New York Med. Jour., Nov. 6, 1909.

[4] This form of treatment originated from the recorded fact (J. Bland-Sutton: Tumors, Innocent and Malignant, Ed. 4, p. 303) that inoperable sarcoma has been known to disappear after an attack of erysipelas. The prodigiosus element was incorporated after it was shown by Rogers that by growing the *Bacillus prodigiosus* with the streptococcus of erysipelas the virulence of the latter was increased.

[5] Coley: Boston Med. and Surg. Jour., Feb. 6, 1908.

George E. De Schweinitz, Philadelphia: Inoperable sarcoma affecting the antrum. Result "most unfavorable." Obliged to discontinue treatment.

Henry A. Brandoux, St. Paul, Minn.: Two cases, one of which resulted in a cure. The second case resulted in death after exenteration of the orbit and the subsequent removal of a recurrent growth on the inferior margin of the orbit.

Coley[6] mentions a personal report of R. Tilly of Chicago: "Adult male, aged 24; inoperable sarcoma of orbit which disappeared under three weeks' treatment with the serum."

J. E. Weeks, New York: Case of recurrent melanotic sarcoma of the orbital tissue in a man aged 72 years. After exenteration of the orbit, Coley's fluid was injected *as a preventive* to recurrence for three weeks and again after an interval of about three weeks for three weeks longer. The injections were given every third day. Metastasis, apparently in the liver, occurred three years later, causing death.

SERUMS

DIPHTHERIA ANTITOXIN

The great value of this serum is too well known to require further elaboration here. The initial dose is 1,500 to 6,000 units, according to the age of the patient and the severity of the infection. The diphtheria antitoxin globulins are employed in proportionate strength. The dose may be repeated in twelve hours if no improvement is noted; in twenty-four hours, if improvement is moderate. In ocular diphtheria two injections are frequently sufficient; should there be an arrest in the improvement, however, or should the improvement be very slow, a third or fourth injection may be given.

GONOCOCCIC SERUM

The serum of Rogers and Torrey is made by a number of manufacturers. It is obtained from the sheep some days after the injection of living gonococci into the peritoneal cavity.

The serum is usually injected into the loose subcutaneous tissue between the skin and deep fascia of the upper arm. Any other convenient place may be used. The dose is ordinarily 2.5 c.c., repeated every forty-eight hours. This general rule is modified by the general condition of the patient and the degree of reaction occasioned.

A number of cases of conjunctivitis have been treated with the serum, both by local application and by injection, with little or no benefit. With iritis the results have been very promising in the few cases treated by this method.

Dr. Arnold Knapp[7] reports the following case of gonorrheal iritis treated by Torrey's serum:

> J. W., gonorrhea contracted two and a half years previously, metastases in joints, pericarditis and three attacks of iritis. The last three attacks treated with Torrey's antigonococcic serum. Iritis characterized by pain, fibrinous exudate, marked ciliary congestion; no adhesions. Symptoms aggravated in both attacks after second or third injections. Condition of eyes then rapidly improved, clearing in from two to three weeks from onset. Ten injections on each occasion.

As far as one case could show, the serum is a remedy of value and deserves further trial. Thus far its action and mode of use are not understood.

Dr. Torrey, in discussing the above case, stated that the inflammation and exudate became more marked after the first injections. This corresponds to the action of the serum in gonorrheal arthritis.

In a personal communication Dr. Arnold Knapp reports having treated three other cases, with cure in two and an indefinite result in one.

Dr. C. W. Cutler[8] has employed serum treatment in a few cases of gonorrheal ophthalmia. He injected it hypodermically in the case of two infants and also dropped it in the eyes without any reaction or pain. Both recovered. One was a moderately severe case and seemed to improve after each injection. The routine treatment was continued, however.

Dr. George S. Derby of Boston, in a personal communication, reports one case of acute gonorrheal ophthalmia in which the Rogers-Torrey serum was employed. The result was negative.

Dr. R. H. Herbst[9] of Chicago gives the following results of the treatment of general gonorrheal infection which will be of value here as indicating what may be expected by use of this serum. Fifty-two patients, including almost every form of gonococcus infection, were injected with this serum. Of this number, 45 were treated in the clinic at Rush Medical College; 7 were private patients. They were divided into six groups as follows:

> 1. Acute gonococcus infection of the anterior or anterior and posterior urethra, with or without infection of the prostate and seminal vesicles.
> 2. Subacute gonorrhea of the anterior or anterior and posterior urethra.
> 3. Chronic gonorrhea of the anterior or anterior and posterior urethra.
> 4. Acute gonococcus infection of the epididymis.
> 5. Acute infection of the joints.
> 6. Chronic gonorrheal joints.
>
> In the first group, namely, the acute gonococcus infection of the anterior and posterior urethra, seventeen patients were injected. These patients were given the maximum dose, 6 c.c., as frequently as the reaction would allow, without any change in the discharge from the urethra or other symptoms.
>
> In Group 2, subacute gonorrhea of the anterior urethra or anterior and posterior urethra, nine patients were injected. Eight of these did not show any improvement after repeated injections, one cleared up after the third injection.
>
> In Group 3, chronic gonorrhea of the anterior and posterior urethra, eleven patients were injected. Seven did not show any improvement; one cleared up after eight injections given during a period of four weeks, one after six injections given during a period of three weeks, and two passed clear urine after four injections given during two weeks.
>
> In Group 4, acute gonococcus infection of the epididymis, four were injected. Three did not improve so quickly as usually seen with local treatment. In one case the swelling subsided in two weeks without the return of the discharge from the urethra; this patient received six injections of 4 c.c. each.
>
> In Group 5, acute gonococcus infection of joints, four were injected. Two of them were aspirated and the gonococcus demonstrated. One patient is under treatment at the present time; three did not show much change.
>
> Group 6, chronic gonorrhea of joints, included seven patients. All improved promptly after the first few injections.

The conclusions to be drawn from the above are clear. First, the serum has absolutely no effect on acute gonorrheal infections; second, its value in subacute and chronic cases is very doubtful, although there were a few isolated cases in which the results were somewhat better than we see with local treatment; third, the value of this serum in the treatment of chronic gonorrheal joints is without question.

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[6] Coley: Am. Jour. Med. Sc., 1906, cxxxi, 375.

[7] Knapp, Arnold: Arch. Ophth., 1908, xxxvii, 231.

[8] Cutler, C. W.: Tr. Ophth. Section New York Acad. Med., Feb. 19, 1906; Arch. Ophth., 1906, xxxv, 409.

[9] Herbst, Robert H.: Serum Treatment of Gonorrhea with Report of Cases, The Journal A. M. A., May 23, 1908, p. 1678.

STREPTOCOCCIC SERUM

The *Streptococcus pyogenes* is usually employed in the preparation of this serum. The serum is put on the market in hermetically sealed glass bulbs, each containing 10 c.c. The initial dose is 10 to 20 c.c. repeated in twenty-four hours if improvement is not marked.

My thanks are due to those named below for the following brief reports of cases treated with this serum.

Charles S. Bull, New York: Case of deep orbital streptococcic infection. Subconjunctival injection of antistreptococcic serum prepared by the Board of Health of the city of New York. The result was doubtful. There was an "apparent diminution of infiltration and shortening of the period of duration of the acute symptoms."

B. A. Ellis, Los Angeles: Has employed antistreptococcic serum in the streptococcic eye infections with "excellent results."

R. D. Gibson, Youngstown, O.: Has employed antistreptococcic serum in streptococcic eye infections by subcutaneous injections. Results negative.

Allen Greenwood, Boston: Has employed Marmorek's serum injected subcutaneously in large dose. Results were good in cases of erysipelas of the eyelids.

E. R. Lewis, Dubuque, Iowa: Has employed antistreptococcic serum "in probably a hundred or more cases" by deep intramuscular injection "of from 10 to 30 cc. at various intervals." Results negative.

F. T. Rogers, Providence, R. I.: Has used antistreptococcic serum by deep injection. Results negative.

Frank C. Todd, Minneapolis: Has employed the antistreptococcic serum by hypodermic injection. In one case of septicemia due to streptococci, recovery took place, owing, Dr. Todd thinks, to the serum. In other cases the result was negative.

D. N. Dennis, Erie, Pa.: Antistreptococcic serum employed hypodermically in a case of erysipelas and in corneal ulcer due to streptococci. Results very good indeed; the improvement was immediate.

N. L. Wilson, Elizabeth, N. J.: Has employed the antistreptococcic serum in a few cases, injecting hypodermically. Results "not good."

It will be noted that the results obtained by use of the serum have been very variable.

TETANUS ANTITOXIN SERUM

Tetanus antitoxin was first introduced by Behring and Kitasato. It is produced in the same manner as the diphtheria antitoxin and is standardized. This serum is manufactured by a number of municipalities and corporations in the United States and is reliable.

For immunizing purposes the dose is 1,500 units of the antitetanus serum injected intravenously preferably. Subcutaneous injections may be made, but are less effective (Park). For treatment 3,000 to 10,000 units should be injected intravenously to begin with, according to the severity of the case, and repeated every eight to twelve hours until the symptoms abate. The injections should be made at the earliest possible moment, as the degree of efficacy is in inverse proportion to the duration of the infection.

While of comparatively little value in ophthamology because of the rarity of the cases, some cases have been reported.

Bert Ellis, Los Angeles: Has employed the antitetanic serum in three cases, injecting the serum hypodermically. There were two recoveries. Further particulars fail.

E. R. Lewis, Dubuque, Iowa: One severe case of ten days' duration. Antitetanic serum employed. Deep injections at frequent intervals and varying dosage. Result, recovery. Lewis is favorably impressed with the serum.

E. J. Bernstein, Kalamazoo, Mich.: Has employed the antitetanic serum to control infection (immunize) in nine cases of wounds of the eye in which tetanus infection was suspected. Development of tetanus did not take place.

That this serum is of much value in the early treatment of tetanus is conceded by all who have used or studied it.

TYPHOID AND MENINGITIS ANTITOXINS

The serum of Chantemesse[10] (typhoid antitoxin) need not be considered in relation to the eye.

Flexner's serum (meningitis antitoxin) which has proved so beneficial in epidemic cerebrospinal meningitis, will probably never be of value in ocular therapeutics except in connection with its use for the systemic disease. The relatively infrequent affections of the eye due to the meningococcus will mend as the epidemic cerebrospinal disease improves under the use of the serum.

DEUTSCHMANN'S SERUM

Deutschmann's serum[11] is obtained from animals that have been fed on living yeast cells in large quantities. The serum as found on the market is prepared in two forms; one, the true Deutschmann serum with some trikresol added to prevent decomposition, marked "Deutschmann's serum," and one in which the active principle of the serum is precipitated by a method devised by Dr. Enoch of the Reute-Enoch Laboratory, Hamburg, then redissolved in water and designated "Deutschmann's Serum E." Both preparations are put up in bottles of 2 c.c. The latter is about twice the concentration of the former.

Deutschmann asserts that his serum is efficient as an adjuvant against pneumococcic, streptococcic, and staphylococcic infections.

The dose of the serum is to be governed by the effect on the pathologic process; in adults, 2, 4, 6, or even 8 c.c. may be injected twice, thrice, or even more times weekly. The injections are intramuscular, either in the chest or in the abdominal walls.

The following cases of its use have come to my notice:

H. Gifford of Omaha, Neb., reports one case of severe infection of the eye. Deutschmann's serum was injected. Results negative (further particulars fail).

Arnold Knapp of New York employed Deutschmann's serum in one case. Result negative.

This serum is of doubtful value.

CYTOGENIC SERUMS

Cytogenic serums were among the first produced. Von Dungern[12] suggested the possibility of using an epitheliolysin for the destruction of epithelial cancer-cells that were left in the body after the work of the surgeon. These serums all possess hemolytic and hemagglutinative properties and are specific against the cells of the organs from which the inoculation was made.

Working on the principle that "the accepted biologic principle at the present time is that the nucleus is the most important morphologic and physiologic portion of the cell, and hence it follows that its chemical constituents must be those most necessary for nutrition," S. P. Beebe[13] isolated nucleoproteids from various tissues and produced antiserums by their injections into the peritoneal cavity of alien animals, hoping to obtain specific serums. Active serums were produced.

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10. Chantemesse: L'hyg. gén. et appliquée. October, 1907.
11. Deutschmann: München. med. Wchnschr., 1907, No. 19.
12. Von Dungern: München. med. Wchnschr., 1899, xlvi, 1228.
13. Beebe, S. P.: Jour. Exper. Med., 1905, p. 733.

At the suggestion of Dr. John Rogers, Beebe[14] endeavored to apply these methods to the thyroid, in the treatment of exophthalmic goiter. Thyroid glands from two human subjects who had died of exophthalmic goiter were first used. The nucleoproteids and the thyreoglobins were extracted from the thyroid glands by Ostwald's method.[15] A mixture of the two proteids was injected into rabbits, and the serum thus obtained was believed to possess both cytolytic and antitoxic properties.

As the difficulties attending the getting of the thyroid gland in cases of exophthalmic goiter would make it impossible to produce sufficient serum to place it on the market, normal human thyroid glands, obtained at autopsy, were employed. The nucleoproteids obtained from this source produced a serum less potent than the first, but sufficiently active. It was found that the best serum was obtained from the sheep.

Since it is possible to obtain serums from diseased glands in small amounts, which are more active than those obtained from normal glands, Rogers[16] proposes that the different serums be designated as "pathologic" and "normal" serums, respectively. Rogers,[17] referring to the results of the therapeutic use of thyroid cytoserum, gives the following statistics:

> Four hundred and eighty cases representing all stages and varieties of thyroidal diseases have thus come under my personal observation for a greater or less length of time, and Dr. Beebe has records of about as many more who have been treated with his laboratory products by many other physicians. In my series approximately 15 per cent. have been cured of all traces of their disease; some 10 per cent. have no abnormal subjective symptoms but still retain signs generally of goiter—less often of exophthalmos or other indication of their disorder noticeable to the trained observer; about 50 per cent. have improved to a greater or less extent, which usually means that after a month or two of treatment, with alleviation of symptoms, the patients have passed from observation and may at present be better or worse than when last seen; about 17 per cent. have failed to show any improvement and 8 per cent. have died from the natural progress of their disorder.

The cytoserum of carcinoma[18] has not been used as yet in carcinoma of the eye.

SYPHILITIC SERUM

Since the application of the method known as complement deviation[19] by Wassermann, Neisser and Bruck[20] to the diagnosis of syphilis and the discovery of the so-called Wassermann reaction, a method for the diagnosis of syphilis has been developed which is undoubtedly of value to ophthalmologists in clearing up the etiology of doubtful eye lesions. In regard to its value Butler,[21] after an exhaustive review of the literature on the subject, sums up as follows:

> The serum [Wassermann] reaction for syphilis is specific. It is found positive in from 90 to 85 per cent. of all cases with syphilitic manifestations. . . . in 50 to 60 per cent. of latent cases . . . in from 70 to 80 per cent. of parasyphilitic diseases.
>
> A negative reaction does not positively exclude syphilis.
>
> The Noguchi tests[22] based on the increased globulin content of syphilitic serum has proven to be reliable, and is a relatively simple means of diagnosing syphilis.
>
> A comparison of the results by the Wassermann and the Noguchi tests, made by Noguchi, shows the latter to be of equal if not of greater reliability.

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ABSTRACT OF DISCUSSION

Dr. M. Wiener, St. Louis: The subject opens up a broad field for investigation and gives promise of a rich harvest in the domain of ophthalmology. My individual experience in this line has not been large, and has been limited mainly to the tuberculin and Wassermann tests. The latter I have found to be valuable in doubtful cases, especially those in which a positive reaction is obtained. One case that impressed me most forcibly was that of the mother of one of my students, who came to me with a double optic neuritis. I was sure that if the condition were syphilitic it must be accidental. There was a positive Wassermann with an uninterrupted recovery under mercury. I agree with Dr. Weeks' views relative to the tuberculin test, having had two sad experiences from the Calmette test. The Wright treatment is of undoubted good in certain cases. A case of successive crops of multiple, inflamed chalazia was successfully treated by Dr. O. H. Brown by using the opsonic index, after it had resisted every other means at our disposal.

Dr. H. Gradle, Chicago: I wish to describe the use of gonococcus vaccine in a single but striking instance of iritis. The patient had a history of gonorrheal rheumatism with iritis recurring since years in one or both eyes. I had treated him a year previously for a very persistent attack of iritis. The chamber was partially filled with a purulent exudate. According to my experience in his previous case and similar instances I could predict with certainty a severe and tedious course. I gave him 25 millions of stock gonococcus vaccine. The next day I found the exudate diminished and replaced partially by hemorrhage. From that day a rapid recovery ensued, so that in four or five days it cleared up to an extent that had seemed practically impossible. The other eye became involved to a very slight extent, while in other previous attacks the patient had had severe attacks in both. Under injections at weekly intervals he made rapid recovery. Dr. Weeks has referred to my experience with staphylococcus vaccine, particularly in phlyctenular troubles. Of course I refer to the persistent cases in which smears show the presence of staphylococci, which are presumably the (secondary) cause of the prolonged attack; for there is no reason to attribute phlyctenules primarily to staphylococcus infection. I can say with reasonable certainty on account of the uniform results, that in persistent and recurrent phlyctenular conjunctivitis vaccination with staphylococci will produce results. It is only after the second injection that I have observed benefit.

Dr. John Green, Jr., St. Louis: A case which may throw some light on the question of proper dosage of tuberculin in eye diseases is the following: The patient, whom I saw through the courtesy of Dr. Prince of Springfield, Ill., was a young woman who, five years previously, had passed through a severe keratitis and iritis of the left eye. At that time the nature of the trouble was unrecognized and the final outcome was disastrous; a large central opacity of the cornea and nearly complete posterior synechiæ. Vision-hand motion. Some three months prior to coming under my observation there appeared a central keratitis of the right cornea. She consulted Dr. Prince, who recognized the tuberculous nature of the trouble and gave her injections of tuberclin TR, beginning with 0.001 mg. As the patient was coming to St. Louis Dr. Prince referred her to me. I began to use minimal doses, beginning with 0.003 mg., being influenced by Wright's dictum that we should begin with small doses. The dosage was controlled by the opsonic index and was slightly increased, at weekly intervals, up to 0.001 mg. The patient did very well for a time, the peripheral infiltration and the central masses cleared and she went to her home near by. About two months later she returned with a severe exacerbation—a dense infiltration of the cornea—and I began with larger doses, beginning with 0.002 mg., increasing the dose and giving it every second day until she was getting 0.02 mg. Rapid improvement took place and the periphery of the cornea cleared notably.

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[14] Beebe, S. P.: Preparation of a Serum for the Treatment of Exophthalmic Goiter, The Journal A. M. A., Feb. 17, 1906, xlvi, 484.

[15] Ostwald: Virchows Arch. f. path. Anat., 1902, clxix.

[16] Rogers, John: The Treatment of Thyroidism by a Specific Serum, The Journal A. M. A., Sept. 1, 1906, xlvii, 655.

[17] Rogers: Ann. Surg., December, 1909.

[18] Strauss, S.: The Serum Treatment of Carcinoma, The Journal A. M. A., Oct. 31, 1908, li, 1488.

[19] Bordet and Gengou: Ann. de l'Inst. Pasteur, 1901, xv, 289.

[20] Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, xxxii, 745.

[21] Butler, William J.: Serum Diagnosis of Syphilis, The Journal A. M. A., Sept. [illegible] 1908, li, 824.

[22] Noguchi, H.: Jour. Exper. Med., January, 1909.

Unfortunately the destructive process had gone too far to permit of complete clearing. The vision at present is 15/150 with the pupil dilated; much less with the pupil its normal size. This experience indicates that we should not rely too much on the opsonic index as to the matter of dosage; it also bears out von Hippel's contention that relatively large doses are most efficient in tuberculous affections of the eye.

Dr. H. Gifford, Omaha: As to the value of the dead gonococcus in metastatic gonorrheal ophthalmia, I had a case a short time ago, one of the very few cases that I have ever seen, with severe involvement of the wrists and ankle-joints and very marked metastatic gonorrheal ophthalmia; in fact, I at first thought it was an ordinary gonorrheal ophthalmia, but examination of the secretions showed no germs. The patient was put on doses of 25,000,000 gonococci. He improved very much in twenty-four hours and in twenty-four more I gave another dose and he made a complete, rapid and satisfactory recovery. I shortly afterward tried the same thing in an ordinary infective case with no result.

Dr. A. G. Bennett, Buffalo, N. Y.: In the preliminary letter of inquiry that Dr. Weeks sent around he asked for experience with the pneumococcus serum. He did not mention it in his paper. My own experience has not been satisfactory. I have seen it used, and have used it in three cases. Two patients died and in the other case I could not see any particular improvement.

Dr. E. V. L. Brown, Chicago: Davis asserted two years ago that recurrences were too numerous with von Hippel's treatment. Koch advised him to use the bacillen emulsion, and in 13 cases there were no recurrences. I think that we should use it if we are to use von Hippel's treatment.

Dr. John E. Weeks, New York: In regard to the dose of vaccines I want to urge the necessity of bearing in mind that these are antigens, and that we ought to determine, as far as possible, the condition of the system in regard to the reaction to vaccines. I think that the tendency is to give smaller doses at first and work up until one gets the greatest degree of benefit, and that is one reason why I have spoken of such small doses of gonococcus vaccine. In regard to the pneumococcus serum, I have had but little experience myself, and that has not been satisfactory, nor have I been able to learn of any satisfactory results from treatment with pneumococcus serums, except from Römer himself.

It has been known that tuberculosis of the iris has disappeared under treatment with mercury, with, perhaps, potassium iodid added. I am, therefore, not at all surprised to hear the experience of some surgeons that the tuberculous variety has perhaps also disappeared under mercurial treatment; but that this treatment is not uniformly successful we all know, and that the tuberculin is much better, we are, I think, agreed.

The original tuberculin is not devoid of therapeutic value, but it is less efficient than the emulsion or the filtrate of Denys, because it is subjected to a temperature much higher in its preparation and a portion of the therapeutic value has been destroyed. The original Koch tuberculin as prepared by the Health Board of New York is a good therapeutic tuberculin.

It is not always practicable to employ the opsonic index, because many are without laboratory facilities. Those who have the facilities and who have studied the opsonic index have not obtained the satisfactory results they desired, and, I think, have omitted using it in consequence.

THE SURGICAL TREATMENT OF SEPARATION OF THE RETINA *

CASEY A. WOOD, M.D.
CHICAGO

As the subject of this paper has not been presented to the Section for many years, I thought it might be profitable to discuss what seems to be the most important of the procedures now claiming our attention.

HISTORICAL REVIEW

Whether or not Saint-Yves (1722), Morgagni (1740), Wardrop (1818), and Panizza (1828) fully appreciated the condition later described as amotio sive sublatio retinæ, there can be no doubt that some of the findings referred to by them as hydrops subchorioidealis and hydrops chorioideæ internus were genuine examples of detachment of the retina.

That William Mackenzie[1] was, even during the preophthalmoscopic era, well acquainted with the pupillary and anatomic appearances of detachment of the retina and the need for surgical interference in its treatment is quite evident from a perusal of his earliest textbook.

He says, *inter alia:*

> It has been ascertained by dissection that a watery fluid is sometimes present in sclerotic staphyloma between the sclerotica and the choroid whereby the latter tunic is pressed inward and the former outward. There are also good grounds for believing that a similar effusion forms occasionally between the choroid and the retina. If the fluid collected in the latter situation is not evacuated by puncturing the staphyloma, it may accumulate to such a degree as to press the retina before it, and having at last produced, by means of its continued pressure, an absorption of the vitreous humor, it will gather the retina into a cord, as sometimes happens in arthritic and in mismanaged cases of syphilitic ophthalmia. A third situation of the hydrophthalmic effusion is between the retina and the hyaloid. Perhaps within the hyaloid is as frequent a seat of the watery effusion as any other; and in this case the structure of the vitreous body is broken up and dissolved.

I would remind you at the outset that retinal separation is not a pathologic entity, but a sign of several quite different diseased conditions. Doubtless, when its pathogenesis is more carefully studied in both its clinical and laboratory aspects, we shall be better able to assign to each case its proper treatment—to attack the problem in a rational rather than in the empirical fashion we are now obliged to adopt.

Before we consider the most effective forms of surgical intervention there are a few preliminary matters to be detailed, an important one being the relations of reattachment of the retina to central and peripheral vision.

The diminished visual vacuity and the lateral defects in the field of vision noticeable to the patient are, as a rule, much improved when the separated membrane is restored to its normal position. Still, this result cannot always be counted on, and its possibility or probability should be considered both by the patient and the surgeon before resorting to operative procedures.

It is not rational to suppose, when the percipient elements of the retina are from any cause seriously damaged, the optic nerve the seat of disease, or the ocular media cloudy, that a reattachment, however perfect, can, *per se,* be of much value to the patient. Such a situa-

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Practical Treatise on the Diseases of the Eye, London, 1830, p. 460.

tion, followed by reattachment, Hirschberg[2] calls "anatomische Heilung," because the result is purely mechanical and has nothing to do with the visual function. The postoperative condition in such cases is paralleled when a mature cataract is extracted in a case of advanced retinitis pigmentosa; the operation may succeed, but the hemeralope is not much better off, *quoad visum*, than he was before the operation. The possible improvement in eyesight may, fortunately, be closely estimated from the history of the case, by testing the projection, by use of the perimeter and by ophthalmoscopy. In any event, it is wise to take a conservative view of the whole situation; it is better to promise too little than too much.

RELAPSES IN THE COURSE OF OPERATIVE TREATMENT

The hopes of both patient and surgeon are often doomed to disappointment because of secondary detachment of the replaced retina. It frequently happens that, after a complete reposition of the separated membrane (with demonstrable increase in both central and peripheral vision lasting for a considerable time) the retina is once more torn away from the chorioid. This accident, due to various causes, has, in some instances, taken place while the patient was lying quietly in bed, under atropin, and wearing a bandage.[1]

Within the past few months I witnessed in my own practice this mournful accident. The patient, a man, aged 55, had recovered almost his whole field for white. He also improved in central vision, from 10/200 and no Jaeger to 20/50 and ability to read coarse print, as the result of three "simple bisections," followed by rest in bed, atropin clycloplegia and pilocarpin sweats. He then "caught cold" and had a sharp attack of acute bronchitis, with severe fits of coughing. In a week, despite all treatment, the detachment, involving the macular region and about one-fourth of the retina in the tempero-inferior quadrants, was as pronounced as before and vision rapidly sank to its former level.

A ray of comfort and hope is thrown on this discouraging fact in the surgical conduct of separated retina in that a number of brilliant and permanent cures have followed persistent treatment and the repetition of operations, in spite of these relapses. In my opinion, it is desirable in the preliminary discussion with the patient of the "pros and cons" of proposed operative measures that this irregular course of the disease be frankly stated. No surgical intervention should be undertaken unless all parties to it are willing to have the patient submit to repeated operations so long as there is a chance of recovery. Deutschmann, for example, has finally succeeded in several cases of relapse, after operating a dozen times or more.

SPONTANEOUS REATTACHMENT OF THE SEPARATED RETINA

Instances of this happy event, which Hirschberg calls "[illegible] Heilung," have been reported by a num- [illegible], although authors greatly vary in estimating their frequency.

Deutschmann, in 300 cases, has seen 3 spontaneous recoveries, or 1 per cent.. Hirschberg has seen 4 examples in 338 cases, while Uhthoff reports a much higher proportion—28 cases out of 337—about 8:30 per cent.

Milliken[3] reports a case of detachment of the retina, confined to the macular region, occurring in a fairly healthy man, that resulted in practical recovery without treatment.

H. M. Post[4] gives a history of two cases, in one of which the retina resumed its proper position while the patient was in bed waiting for the removal of a cataract in the other eye. In another patient the reattachment occurred without any known cause and without treatment.

This subject is exhaustively discussed by Müglich,[5] and later by Spümer[6] in the light of case histories from Uhthoff's clinics in Marburg and Breslau. In a number of these cases there remained slight defects in the visual field or small areas of unattached or imperfectly attached retina, not noticed by the patient.

In some instances, the period of observation (less than a year) was not protracted enough to give assurance that a return of the separation might not take place. In my judgment, one may place in the category of physiologic cures quite a number of replacements thought to be due to rest in bed, sweats, dionin, mercurials, iodids and other kinds of medical treatment, not to mention those following minor surgical interferences—subconjunctival injections, cauterization of the sclera, and the like. In any event, Müglich gives the histories of 136 reported cases (1891) of detached retina in which there was complete replacement of the membrane without resort to any surgical treatment whatever, and these figures by no means exhaust the list to the year 1910.

PROGNOSIS IN OPERATIVE TREATMENT

Even under favorable conditions permanent cure of this formidable disease calls for the exercise of much patience and endurance both by the surgeon and the sufferer, for the outcome is at least doubtful. One can, however, give a fairly definite reply to anxious enquirers after fully considering the causes, character, extent, duration and the coincident ocular changes of a particular example of retinal separation.

In a general way it may be said that, as Sattler[7] tersely puts it, the smaller the detachment and the more recent the case the more encouraging the prospect.

Schöler[8] found in his experience that those cases most successfully treated are recent and present a clear vitreous and a bagging of the detached retina, thus indicating the presence of a small quantity of subretinal fluid. He regarded as unfavorable concomitant disease of the media, especially a fluid and turbid vitreous, high myopia, extensive detachment of the retina and marked disease of the chorioid.

In considering the propriety of submitting the patient to surgical measures it must not be forgotten that a committee of the Société Française[9] ended its report on all operations known to the members at that time with these words: "Since we cannot affirm the certainty of any operative measure it may be stated that, as a rule, it is good policy to abstain from any surgical interference in the treatment of detached retina."

However, at the present time, we are able to take a more encouraging view of the situation.

WHAT CONSTITUTES A CURE OF RETINAL DETACHMENT?

In my limited experience of this affection the patient is generally satisfied with useful central vision and the permanent disappearance of the lateral cloud in his visual field, though the reattachment be incomplete. On the other hand, even if there is a satisfactory anatomic cure from the surgeon's standpoint, the sufferer is, of course, not interested in that fact when his eyesight is not distinctly improved as a result of the treatment.

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[2] Centralbl. f. prakt. Augenh., 1891, p. 168.
[3] Western Reserve Med. Jour., September, 1895.
[4] Am. Jour. Ophth., May, 1907.
[5] Inaug. Diss., Marburg, 1891.
[6] Inaug. Diss., Breslau, 1904.
[7] Deutsch. med. Wehnschr., 1905, Nos. 1 and 2.
[8] Zur operativen Behandlung der Netzhautablösung, Berlin, 1889.
[9] Bull. et mém. Soc. française d'opht., 1887, p. 67.

That a patient with detached retina may be properly referred to as cured, the reattachment should be complete, or so nearly complete that he does not complain of symptoms, and the retina has retained its normal position for at least a year.

SUPPLEMENTARY (NON-OPERATIVE) MEASURES

In all, or nearly all, forms of surgical intervention various kinds of medical treatment are also prescribed. While these operative aids are referred to because of this fact, it is only fair to add that numerous cures have been claimed for one and all of these non-operative measures alone, as well as for almost any two or three of them combined.

Perhaps the most important remedy is the prone position in bed for weeks at a time, varied by daily removals to a couch or lounge. During the period of rest the patient should studiously refrain from any considerable exertion and must avoid straining at stool, sneezing, hawking, laughing and, above all, coughing. During this state of complete relaxation he may, at the discretion of the surgeon, take such supplementary treatment as the case seems to demand.

Many observers combine with this form of rest cure the use of the artificial (Heurteloupe) leech, atropin, simple protective or compression bandages, tinted glasses. a darkened room, laxatives, sudorifics, a restricted diet and the employment of certain drugs said to have a specific effect on the vitreous changes, chorioidal disease, subretinal effusion and other accompaniments of the disease.

The most important of the internal remedies are large doses of potassium iodid, or sodium salicylate (Gifford), combined with sweat baths, with or without pilocarpin.

SIMPLE SCLERAL OR SCLEROCHORIOIDAL PUNCTURES—POSTERIOR SCLEROTOMY

This operation is intended to give vent to the subretinal fluid which, from the earliest years of the ophthalmoscopic era, was known to be an almost constant accompaniment of *ablatio retinæ*. It was the first rational operation performed for the relief of the disease and was first recommended and practiced by James Ware[10] in 1805. Ware's own words are:

> The operation was attended neither with difficulty nor danger. It consisted simply in the introduction of a common spear-pointed couching needle through the tunica sclerotica, a little further back than the part where it is usually introduced for the purpose of depressing a cataract. As soon as the instrument entered the eye a yellow-colored fluid immediately escaped, sufficient in quantity to wet a common handkerchief quite through. The needle was continued in the eye about a minute, in order to give the fluid a more ready way to come out: and as soon as it was withdrawn the discharge ceased. The tension of the eye was considerably diminished by the operation. A compress dipped in a saturnine lotion was bound on it, and the patient put to bed.

In the modern operation the point of a broad needle or narrow cataract knife is, by the aid of the mirror, passed through the bulbar wall just far enough to tap the postretinal sac. The retina itself is not wounded. The instrument is then withdrawn and in this act turned slightly, to allow a portion of the fluid to drain away. This maneuver may be repeated almost indefinitely at proper intervals, say, of three days or a week. Atropin should be used, and the patient is kept quiet in bed.

Scleral puncture seems to hold its own to the present time and, alone or in conjunction with other forms of treatment, is practiced more frequently in detached retina than most surgical procedures. Cures following its performance are not uncommon, and, when practiced within proper scleral areas, it is practically devoid of danger.

Greenwood,[11] for example, gives an account of a case treated by this means with improvement that was not, however, permanent.

De Schweinitz has had good results with scleral puncture when it is followed by large (30 mm.) subconjunctival injections of physiologic salt solution and has not found it necessary to increase the strength of the sodium chlorid solution beyond 5 per cent. Subsequent to this treatment the patient should remain in bed.

An instance of cure is reported by W. H. McMullen.[12] The detachment had persisted for eleven months, and after repeated punctures of the sclera, combined with rest in bed and a bandage, the patient entirely recovered.

M. Sachs has made a slight modification in the foregoing, in that he makes a small incision behind and parallel to the equator, and through it passes a sickle-shaped knife into the eye. In withdrawing the blade it makes a decided incision of the intraocular membranes and so increases the area of cicatricial exudation and subsequent adhesion of the wounded tissues.

SCLERAL PUNCTURE WITH INCISION OF THE DETACHED RETINA

As early as 1863 von Graefe[13] advised and practiced discission of the detached retina, an operation which he performed over fifty times. Only in one instance was this procedure followed by the loss of an eye. In about one-half the cases improvement was observed at once, although better vision was claimed for a year and longer in four instances.

DeWecker, Arlt, Bowman and others gave this procedure a fair trial with occasional good results, but it proved, on the whole, to be so unsatisfactory that it was finally abandoned. In more recent times it has received some support and has had a few advocates.

PUNCTURE OF THE EYEBALL WITH THE GALVANOCAUTERY

DeWecker and Masselon[14] were the first to employ this form of treatment, intended to bring about adhesive inflammation between the chorioid and the replaced retina.

The point of the electrocautery, heated almost to whiteness, is cautiously pressed against that (previously denuded) part of the scleral wall corresponding to the detached area and allowed to burn its way into the sac at the site of punctures previously made with the knife. The cautery point is then immediately withdrawn and the eye treated, as after a major operation, with a protective bandage, atropin and rest in bed. If no serious reaction sets in it is repeated as often as necessary to bring about a cure.

J. A. Craig[15] reports a case of retinal separation associated with 8 D. of myopia that seems to warrant the efficacy of this method. Simpler means having failed, scleral puncture was resorted to and reposition of the membrane followed, but became once more detached in four days. Again scleral puncture was tried, reinforced by galvanocautery application to the sclera. The separated retina now remained in position eight days. Again the sclerotic was punctured and the galvanocautery applied more vigorously. After this last treatment there was no relapse and twenty months later vision was 6/6.

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[10] Chirurgical Observations Relative to the Eye, 1805, ii, 514.

[11] Ophthalmology, January, 1905.

[12] Trans. Ophth. Soc. of the United Kingdom, 1907, xxvii, 124.

[13] Arch. f. Ophth., 1863, xv, 2, 85.

[14] Ann. d'ocul., 1882, lviii.

[15] Brit. Med. Jour., Dec. 20, 1905.

Wernicke[16] reports on 422 patients with retinal separation examined in the clinic of Uhthoff. Of this number, 36 patients were cured or greatly relieved; 8 were cured by operative treatment; 10 by rest and other minor measures, and 18 recovered without treatment. Wernicke is much in favor of the galvanocautery, which, he believes, will best secure extensive adhesions of the retina to the chorioid. In the statistics just referred to, of 2 out of 13 cases the retina was entirely reattached by the employment of this measure.

Elschnig[17] gives a complete account of this operation, a part of which I take the liberty of translating.

> The sclerotic is exposed by a meridional incision through the conjunctival tissues overlying the scleral coat which, after bleeding has stopped, is punctured at half a dozen or more points with the red-hot galvanocautery. This minor operation is done under cocain-adrenalin anesthesia, or, in the case of very sensitive patients, subconjunctival cocain injections may be employed. The conjunctival folds of transmission between two of the straight muscles are taken up with a fixation forceps and slit right to the corneal margin with scissors. The underlying fibers of Tenon's capsule are also cut through, thus making a wound 8 to 12 mm. long.

Sattler, having placed the cold cautery point in the wound, afterward turns on the current until the cauterization is completed.

If, on removing the cautery-point from the wound, it is found adherent to the tissues, the current should be again applied, when it is more easily removed from the charred tissues.

The edges of the conjunctival incision are now brought together with silk or catgut, the wound is dressed and a bandage applied. The sutures may be removed after two days.

The cauterization may be repeated as soon as the eye is once more free of irritation. If, however, the application is too frequently made, there is some danger of one of the straight muscles becoming attached, by scar tissue, to Tenon's capsule.

There can be no doubt, as Wernicke and others have shown, that this method does induce marked inflammatory adhesions of the retina to the chorioid.

H. Dor does not like the electropuncture, but prefers the actual cautery in the form of Guersant's needle, because that instrument is provided with a "stop" which prevents too deep perforation of the sclera. This needle is heated red-hot in an alcohol flame and applied to the conjunctiva. The objection to this method is that it brings about a marked contraction of the ocular conjunctiva, as well as cicatricial adhesions of the overlying tissues to the sclerotic.

Elschnig considers the principal value of all these local cauterizations to lie in the fact that the sclera is contracted by the formation of scar tissue in it through these burns, so that the size of the eyeball itself is reduced. In other words, galvanic and other forms of cautery bring about the same result that one gets in Mueller's operation. He has employed the cautery in connection with scleral puncture and believes that in this way, he obtains better results than ordinarily flow from either method alone.

H. Dor[18] reports over 40 cases of retinal detachment in which he makes use of a combined treatment, employing the artificial leech, punctiform cauterization and the injection into Tenon's capsule of 10 per cent. sodium chlorid solution. Seven of the patients were decidedly improved, 5 satisfactorily improved and in 3 there was small improvement. In 10 cases there was complete failure.

SUBCONJUNCTIVAL INJECTIONS

The *modus operandi* of subconjunctival injections in detached retina is not fully understood. Whether they act (in virtue of the local irritation) by stimulating absorption of the subretinal fluid, at the same time increasing the watery contents of the hyaloid cavity, or whether the process of osmosis (exosmosis of the subretinal fluid associated with endosmosis of the subconjunctival solution and pouring out of serum from the ciliary vessels into the vitreous chamber) best accounts for the beneficial results remains to be determined.

It may be mentioned, in passing, that dionin, inasmuch as it acts in a manner similar to saline subconjunctival injections, is indicated as a substitute for these agents in the treatment of displaced retina and, in some hands, appears to be of some value.

DeWecker,[19] probably influenced by Raehlmann's[20] earlier work, was the first to use this remedy extensively. He injected at first, without much effect, simple salt solution into Tenon's capsule, but later[21] added small proportions of gelatin (3 per cent.) to increase the local irritation and consequent diapedesis of the intraocular fluids. He found the effect on the detachment more marked than before and noticed that the disease of the vitreous was distinctly improved.

In 1896 Lodato[22] gave a favorable account of the use of sodium chlorid injections in 15 cases of separation of the retina. In 12 of these there was almost total reposition of the membrane; in two only was there complete increase in the central acuity.

During the following two or three years, in consequence of continued favorable reports, there was a widespread employment of this remedy by Gotti,[23] Mazzoli,[24] Dor, Sr.,[25] and others.

Dianoux prefers a mixture of 1 per cent. sodium chlorid and 4 per cent. cane sugar in distilled water. Of this, 4 or 5 c.c. are injected into Tenon's capsule on the first, second and fifth day of the treatment. He has found a series of ten such injections to be effective in detached retina.

Dor, Sr., at the Ninth International Ophthalmological Congress, reported the results of treatment of 21 patients. Of these, 14 were cured or much improved, several of them having no relapse after four years. His methods included chiefly injections into Tenon's capsule of 20 to 30 per cent. solutions of salt, the application of the Heurteloupe leech to the temple, thermocautery puncture of the sclera at the site of the detachment, a compression bandage and rest in bed.

Marple[26] has used subconjunctival medication in three cases, but without permanent improvement. He began with 5 per cent. sodium chlorid and gradually increased it to 25 per cent., although the stronger solutions were extremely painful.

Guilbert[27] tried in three cases the serum-gelatin of deWecker and the serum of Trunecek with one cure and temporary improvement in the other two cases.

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[16] Klin. Monatsbl. f. Augenh., February-March, 1906.
[17] Czermak's augenärztliche Operationen, Ed. 2.
[18] Bull. de la Soc. Franç., 1907.
[19] Traité complet d'Ophtalmologie. Paris, 1887.
[20] Graefe's Arch. f. Ophthal., 1876, xxii.
[21] Ophth. Klinik, 1899, No. 11.
[22] Ann. di ottal., 1896, iv.
[23] Ancora sulla cura dei distachi della retina, Bologna, 1898.
[24] Arch. di ottal., 1900, vii.
[25] Ztschr. f. Augenh., Sup. 2, 1899.
[26] Rep. New York Eye and Ear Infirmary, 1904.
[27] Clinique Opht., Sept. 10, 1904.

A. Maitland Ramsay[28] has taken all his cases of this condition occurring in hospital practice over a period of four years and reported on the results of treatment by subconjunctival saline injections. The exact nature of the saline varied in different cases, but the solution ordinarily used was from 5 to 20 minims of 1 in 2,000 bicyanid of mercury with 8 per cent. chemically pure sodium chlorid. Dionin was occasionally added to the injection. Ramsay lays great stress on the need of attention in every way to the patient's general health, and especially to the state of the bowels, during his period in bed.

The average number of injections was five, and the average duration of treatment one month, but prolongation of the period in bed is probably beneficial if the case is one which is improving. On the other hand, if, after from 14 to 21 days, there are no signs of improvement, the case may be considered incurable. There were 50 patients treated by this author, of whom 27 received no benefit whatever. Of the remaining 23, 10 showed very decided improvement. Of these 10, 5 afterward relapsed, the shortest period being 2 weeks and the longest 4 years after conclusion of treatment; of the remaining 5, ~~3~~ were satisfactory after one year and 2 were lost sight of. The other 13 of the benefited patients showed moderate improvement; some of them relapsed. Ramsay concludes that the favorable cases are few, the unfavorable many; but, however hopeless the latter may at first seem, it is always well, before coming to the conclusion that nothing can be done, to try the effect of such simple treatment. It can at least do no harm.

Ramsay gives the following as the formulas of the various fluids used by him in the subconjunctival treatment of amotio retinæ:

1

℞.

Sodii chloridi (chemically pure)	8 per cent.
Sol. hydrarg. bicyanid.	1 in 2000

Misce.

2

℞.

Dionin	1 per cent.
Sodii chloridi (chemically pure)	8 per cent.
Sol. hydrarg. bicyanid.	1 in 2000

Misce.

3—DOR'S FLUID

℞.

	gm.	
Sodii chloridi	5	
Sodii carbonatis		40
Sodii sulphatis		40
Sodii phosphatis		10
Potassii sulphatis		40
Aquæ destillatæ, ad	20	

Misce.

Staerkle[29] publishes the outcome of subconjunctival injections in 23 instances, with three cures. His conclusions [illegible] form of treatment are as follows:

1. [illegible] injection of common salt solution forms a harmless and almost painless means of stimulating the absorption of pathologic exudates within the eye.

2. Up to a certain point the stronger the solution the greater the effect. The writer employed 3 strengths only, 2 per cent., ~~4~~ per cent., and 10 per cent., and found these in every way adequate.

3. On the whole, the improvement in the anatomic conditions as well as in the visual fields and central vision, was more marked as time passed and the injections were continued.

4. The injections had a greater influence on recent, partial detachments than on long-standing and widespread examples of separation of the retina. Intermediate forms were variously affected by the treatment.

I may add my own experience of subconjunctival injections of 10 per cent. salt solutions in retinal detachment; it is that, as an aid to more serious operative intervention, they are distinctly valuable and deserve a permanent place in our armamentarium.

DEUTSCHMANN'S OPERATIONS

Bisection, With and Without the Intravitreous Injection of Sterile Animal Vitreous.—In 1895 R. Deutschmann[30] of Hamburg first published his classic description of two operations for which he still claims results unattained by any other form of treatment. He is opposed to waiting until non-operative measures have been tried, but advises us to proceed at once to the more effective employment of surgical intervention. The simpler bisection (*"Durchschneidung"*) method he regards as especially valuable in the more acute or recent cases; the combined procedure he reserves for the advanced and less hopeful forms of the disease Deutschmann asserts that bisection reduces the tension on the retina, which in his experience can be so marked that it is impossible to reattach it without making one or several incisions through the vitreous bands. He evacuates the retinal and preretinal fluids and tries to produce small inflammatory adhesions between chorioid and retina. With the injection of animal vitreous into the posterior chamber he produces a mechanical pressure on the detached retina against the chorioid, and a welding of both membranes on an inflammatory basis, with simultaneous refilling of the eyeball. Relapses may occur with either or both methods, but under these circumstances he repeats the operations in an attempt to regain what has been lost. The author refers to the favorable statistics of Horstmann (6.66 per cent. of cures) and Uhthoff (7.50 per cent.) as the result of operative interference, but believes that much better success can be attained by his methods. As evidence he gives his own experience. To July 1, 1909, he has operated on 267 patients with retinal detachment. Of these he cured 70, or 26.1 per cent., improved 94, or 35.2 per cent., failed in 103, or 38.7 per cent. From these totals, however, he subtracts a number of patients on whom the operation was performed as an experiment, without the least chance of recovery of sight (the patients fully understanding the situation), with these results: cured 31.1 per cent., improved 41.3 per cent., not cured 27.6 per cent.

Bisection of the Vitreous and Retina.—This operation[31] is never employed in cases in which the detachment is above the equator; when one has to deal with such it is better to wait, without treating the patient, until the subretinal fluid has gravitated downward. After thorough disinfection and cocainization a two-edged linear knife, about the width of a medium-sized Graefe knife, is entered at a tangent to the globe (through conjunctiva and sclera well back of the ciliary region), passed quickly forward and then downward and backward, sweeping toward a counter-puncture at the other extremity of the ocular diameter, so as to cut in two as much as possible of the vitreous chamber without wounding any surgically important structure. The knife is then drawn out as quickly as it was introduced, being turned a little on its axis in order to allow the subretinal as well as some of the preretinal fluid to escape. This maneuver may be repeated as often as twenty times or more, with sufficiently long intervals between successive operations to permit the eye to recover from the reaction which, however, is generally small or *nil*. Of course, this interval must be a longer one if one of the larger retinal vessels has been wounded, or any other unforeseen accident should occur. A celluloid shield should then be applied to both eyes, or if a bandage be used it should be a loose one for the first 24 hours. After the first day only the eye operated on is covered, and it must be kept under the influence of atropin during the whole period. The patient should be kept in bed 7 or 8 days after each operation and results watched with the ophthalmoscope.

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[28] Ophthalmoscope, November, 1907.

[29] Inaug. Diss., Basel, 1900.

[30] Deutsch. med. Wchnschr., 1895, p. 345; and Beitr. z. Augenh., 1895, xx.

[31] Beitr. z. Augenh., 1904, No. 59; Ophthalmoscope, August, 1907, p. 410, and November, 1909, p. 737.

As a rule, when these directions are strictly followed under careful asepsis the operation is without danger to the eye.

Combined Bisection and Intravitreous Injection of Animal Vitreous.—Deutschmann reserves this operation for those cases in which vision has sunk very low or in which other means of restoring sight have failed. He says that, while one must not expect too much from it, yet by its use he has been able to save a small percentage of eyes in desperate cases. He also claims that, carried out under full cocainization and with strict aseptic precautions, it does not endanger either the eye operated on or the fellow eye.

The instrument employed by Deutschmann (glass syringe) allow only an advance of its piston. This arrangement is provided so that no deleterious suction can be practiced on the contents of the eye should the finger by chance be removed from the piston end. As nozzle for the syringe one may employ either a platinum-iridium canula or a double-edged knife canula. Deutschmann now employs ready-to-use sterilized vitreous body of absolutely fresh calf's eye, hermetically sealed in glass tubes. These are supplied by Dr. W. Mielck, Dammthor-Strasse, Hamburg. This chemist supplies two kinds of calf's vitreous: No. 1 is made by the filtration of freshly-boiled vitreous body, afterward resterilized by boiling in hermetically sealed glass tubes. This preparation has a weaker action than No. 2, which is composed of fresh vitreous body inspissated at 40 C. *in vacuo,* and the residum taken up with physiologic salt solution—sterilized by boiling—so that the component parts of normal, but concentrated vitreous body are contained in it.

The technic of this intravitreous operation, as given by the author, is as follows:

To bring the retina once more as close as possible to the chorioid by means of the pressure of the injected animal vitreous it is, of course, necessary to get rid of the subretinal fluid. If one uses the point of the ordinary platinum-iridium canula then the procedure is as follows: The syringe, filled with the animal vitreous, is best introduced in the region of the ora serrata, somewhat outward and downward. It is given to the assistant to hold while the operator, with the double-edged linear knife makes the usual simple bisection downward. After the completion of this maneuver, he, with the syringe, injects into the eye very slowly some of the contents of the barrel. It is generally sufficient to push forward the piston from 1.50 to 2 divisions, according to the consistency of the eye. Then the syringe point is withdrawn and the puncture closed with toothed forceps for some minutes, that none of the fluid injected may escape from the eye. To use the syringe with the canula-knife, omit the usual bisection and insert the knife point of the syringe, filled with animal vitreous, in exactly the same way as is directed in the bisection operation with the double-edged knife. One can introduce the canula-knife up to the point of the counter-puncture but in all cases avoid moving the point from side to side.

On the introduction of the syringe the subretinal fluid flows out. Then one immediately presses the syringe piston forward, thus making the injection. The point of entrance is in this case also held together with forceps after the removal of the syringe.

After the operation, both eyes are lightly bandaged for twenty-four hours, then one eye *only*. Further measures depend on the reaction shown by the eye. This reaction, again, is dependent on the concentration of the animal vitreous used. "I must here state, to spare my colleagues every unpleasant experience, that they must begin with the weaker preparation, and, since the operation can with perfect safety be repeated several times, gradually go on to stronger ones."

The ocular tension is generally reduced after these operations.

For the first injection one should dilute vitreous preparation No. 1 with equal parts of sterilized physiologic salt solution; for the second use the solution pure, and so on. Inflammatory symptoms, such as may appear at various periods up to the eighth day after the operations, can, as a rule, be easily controlled by atropin and hot applications. "If increase of tension sets in, one should at first wait quietly; only when the pain becomes very severe and perception of light is somewhat worse under the influence of the heightened tension should one interfere and do another simple bisection." Under ordinary conditions, however, it should always be borne in mind that after every injection the vitreous body will become more or less cloudy. This translucency gradually clears up completely. Even if it assumes a yellowish, abscess-like appearance, it becomes clear and normally transparent again in the course of a few months. It is only now and then necessary to assist absorption by hot applications or by an occasional salt injection.

The author's latest statistics[32] report 68 eyes treated by the use of animal vitreous. With repeated injections he cured 3 patients, improved 26, failed in 38, and 1 is still under treatment.

Since the publication of Deutschmann's first paper I have done the bisection operation on 10 eyes in 9 cases. Of these, there was complete reattachment of the retina with restitution of useful vision (Jaeger 1 and 20/30) in one instance. This improvement continued for over three years—as long as the patient was under my observation. In two others decided improvement of central vision followed, but with incomplete reattachment of the retina. In the others there was little or no improvement.

I cannot understand why Deutschmann refrains from giving patients the benefit of the milder, non-operative forms of treatment (known to bring about occasional cures) while waiting for the gravitation of the subretinal fluid to lower levels. When the detachment in the upper quadrants is not due to malignant tumor or other incurable cause I am in the habit of making a thorough inquiry into the probable cause of the separation, and with rest in bed, pilocarpin sweats, iodids, subconjunctival injections and the use of other means, more or less rational, endeavor to bring about some alleviation of the patient's symptoms.

MUELLER'S OPERATION

Resection of a Portion of the Scleral Wall.—The originator of this operation. Leopold Mueller,[33] was led to perform it because of his belief that many cases of detachment are due to disproportion between the shrunken or shrinking vitreous humor and the ocular envelopes. He proposes a rather formidable but. he claims, successful remedy for this condition, no less than an attempt to reduce the size of the eyeball. Since it is impossible to attain asepsis of the conjunctiva, Mueller operates on the globe behind the equator.

Krönlein's resection of the outer orbital wall forms the first stage of this new operation. This preliminary being accomplished, the temporal aspect of the eyeball is thoroughly exposed. The external rectus is then divided, the cut ends being secured by fine sutures, so that they may be later reunited. The operator then carefully and slowly excises with a sharp scalpel a biconvex piece of sclera 20 mm. long (with its length parallel to the equator) and 8 to 10 mm. wide, in such a manner that its anterior edge lies 1 or 2 mm. behind the insertion of the external rectus. Its posterior margin should correspond to the equator. The edges of the scleral wound are now brought together by five small stitches. In the performance of this operation care must be taken not to injure the chorioid, but, just before tying the scleral sutures, the subretinal sac is tapped with a narrow knife and some of the fluid allowed to escape. The cut ends of the externus are then carefully approximated and the bony plate, skin, etc., readjusted. When the wound is closed the whole eyeball is smaller than before.

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[32] Ophthalmoscope, November, 1909, p. 739.
[33] Klin. Monatsbl. f. Augenh., May-June, 1903, p. 459.

Mueller reports 3 cases in which he had done the operation, after which the separated membranes resumed and held the proper position for 10, 11 and 15 months, respectively.

It is, of course, too soon to pass judgment on this operation. Perhaps, in the majority of cases—those associated with the enlarged globe of extreme myopia—it may prove more valuable than any other operative procedure.

In this paper I have considered only those surgical methods that, in my experience, are most likely to be effective in this distressing condition. Such measures as iridectomy, electrolysis of the subretinal fluid, Schöler's operation of the intravitreous injection of iodin, injection of air into the hyaloid cavity, laceration of the retina, and many others are of historical interest chiefly. None of them is, in my opinion, so valuable as the procedures just detailed.

CONCLUSIONS

One who has made a study of the observations of others in the surgical treatment of detached retina and has added to it his own experience—though that may be limited—will, I think, come to these conclusions:

1. Inasmuch as separation of the retina is not a distinct disease but merely one sign—albeit a very important one—of several different affections, it is not to be expected that it is to be cured or much relieved in every instance by some particular operation. The "one-disease-one-operation" idea can have no place here.

2. A large percentage of retinal repositions, including an unknown proportion of those that follow operative measures, belong to the class of spontaneous cures. In such cases relief may have been assisted, hastened or rendered more or less permanent by the remedies exhibited, but the probability is that the patients would have recovered in any event.

3. So far as prognosis is concerned, the more hopeful cases are the recent, limited varieties—those produced by traumatism, postretinal hemorrhage and the like—as well as those resulting from removable causes. *Per contra*, old, extensive detachments, especially when associated with marked degeneration of the retina, vitreous and chorioid, are not likely to get well under any forms of treatment. A long-separated, starved retina rarely regains its lost functions.

4. Recurrence of the detachment forms a disappointing feature in the treatment of the disease, and this fact should be considered by both patient and surgeon when the subject of operation is broached. On the other hand, it has been abundantly demonstrated that patients with separated retina have recovered after several relapses and after having submitted to many operations.

5. No patient should be regarded as permanently cured until at least a year after the replacement of the detached membrane. It is true that relapses are recorded after an interval of several years, but they are unusual.

6. When a patient presents himself it is best to try for, say, a month—indefinitely as long as improvement continues—non-operative measures. A thorough study should be made of the case to determine, if possible, the cause of the detachment, that it may be treated *secundum artem* and, perhaps, removed. With this causal treatment give subconjunctival injections, instil atropin and keep the patient in bed. Pilocarpin sweats, with iodids or sodium salicylate, are also generally indicated.

7. Failing to improve vision or to replace the separated retina by milder means, resort should be had to operation, and the question of the best operation for the case in hand at once arises. We know that the function of the retina gradually weakens the longer it is displaced; consequently the sooner one makes a choice of operation the better.

8. Deutschmann advises against his operation as long as the postretinal fluid is held within the upper quadrants of the globe. If we are debarred by this circumstance from the use of his methods, there can be no objection to the employment of scleral puncture, combined with punctiform cautery of the denuded sclera over the site of the detachment. Why should we wait until the retina is further detached and degenerated?

9. In those cases in which the sac occupies, as it generally does, the lower aspect of the hyaloid chamber, Deutschmann's method of bisection should be the operation of election, whether or not there be evident rents in the retina or visible fibrillæ in the vitreous.

10. Two weeks after an intrabulbar operation a careful examination of the eye should be made—with the electric ophthalmoscope (so that the patient may keep the prone position), hand perimeter, ward charts, etc.—to decide if improvement has taken place in the local conditions as well as in central and peripheral vision.

11. Assuming the eye to have recovered from any operative measure, i. e., to be free from either intraocular or extraocular inflammation, the same or another operation may be done in from three to six weeks' time.

12. In unpromising cases Deutschmann's intraocular injections of animal vitreous is in order, although Mueller's exsection of the sclera seems a rational though formidable procedure, which an improved technic and a wider experience may yet demonstrate to be of great value in the conduct of this extremely serious condition.

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ABSTRACT OF DISCUSSION

DR. L. WEBSTER FOX, Philadelphia: As Dr. Wood has mentioned, the retina is normally attached to the chorioid only at the optic nerve and ora serrata, being kept in place by the internal pressure of the normal vitreous. Separation is therefore possible only when this pressure is reduced by disease or traumatism, the force acting behind the retina becoming greater than the vitreous pressure, thus producing traction on the retina, or, in other words, separation. Frequently this shrinking of the vitreous tears the retina and permits some of the fluid contents in the vitreous space to find its way behind the retina and assist in the general separation which follows injuries or degeneration of the vitreous. As we all know, the ordinary treatment—rest in bed, potassium iodid, mercury, pilocarpin and electric light sweats, as well as conjunctival injections—forms one of the most unsatisfactory chapters in ocular therapeutics. I have found that the most satisfactory results obtained have been in those patients in whom I have made a puncture of the sclera beneath the curtain and have thus withdrawn the *subretinal fluid*. This puncture is made with the broad knife-needle. The incision is about three lines long and parallel with the scleral fibers, through the conjunctiva, which is made taut by the excessive rotation of the eyeball. When the eyeball rotates back into place the scleral *wound is closed* by the slipping back of the conjunctiva.

I am convinced that this operative procedure, which may be performed four or five times *on* the same eye, is a safe one. I consider Deutschmann's procedure *much more* difficult to carry out; therefore, the simpler method should be given the preference. The *younger the patient (10 to 22)* the more favorable the outcome. Beyond the age of 40 the prognosis is unfavorable under any form of treatment, surgical or medical, but still one should make an effort to do one's part, and where the subconjunctival treatment as outlined by Ramsey fails, the operative method should be carried out.

Dr. Oscar Dodd, Chicago: Several years ago I was fortunate enough to secure a complete reattachment of the retina in a case by means of the Deutschmann operation, repeated twice, together with complete rest of the patient in bed. I believe the operation is well worth trial, although since that time I have used it in a great many cases, and while I have had some improvement, I have been unable to obtain perfect reattachment which has remained. With the simple puncture of the sclera, which Dr. Fox has described, the puncture with the galvanocautery, etc., I have been unable to get as good results as from the Deutschmann operation. There is one point in the treatment, however, which I think should be considered, and that is the extent to which your patient will coöperate. I find it difficult to get the patient to remain quiet in bed, and I believe my success in one case and improvement in several others have been largely due to the patient maintaining complete rest until adhesion between the retina and chorioid took place. I have never seen any benefit from the injections of salt solution, except as combined with puncture, and I think the two essentials in the treatment are the removal of the subretinal fluid and rest, allowing the hemorrhage or plastic exudate which is thrown out between the retina and chorioid to form an adhesion between them.

Dr. H. Gifford, Omaha, Neb.: I never could see the sense of the Deutschmann *operation*. It simply makes a scleral puncture and two holes in the retina. What we want to do is to let out the fluid behind the retina. That is what these holes in *the retina will not do*. All the *good it does* is simply from the scleral puncture, except in cases in which we can see distinct bands in the vitreous; then cutting these may possibly accomplish something. There is another objection to the Deutschmann operation. He says, don't do this operation until the detachment has settled to the bottom of the vitreous. Why should we wait until it settles to the bottom when we know that the sooner it is reapplied the better? In the few cases of cures I have seen the detachment has been in the upper part. When we know that the best chance to cure the patient is to let the fluid out, why should we not do this at once instead of trying rest alone for a month? It seems to me not enough attention has been paid to late detachments. I have seen two cases in which the detachment occurred four years after the injury. In one of these cases I examined the eye within a half hour of the injury, and found *no* sign of detachment. The patient had normal vision for four years and then had a detachment and he has not had much sight in that eye since. With regard to burning the sclera, I have never seen any reason for simply burning the sclera on the outside with the hope that it is going to draw the retina back into place. If you are going to do anything with the cautery, puncture the sclera with it.

Dr. S. L. *Ziegler*, Philadelphia: I wish to add my experience in the use of scleral puncture for cases of detached retina, which I perform a little differently from the methods that have been mentioned. In a few cases I have been very successful, in some moderately so, while others have been failures. I recall one case in particular in which vision was practically *nil*, and in which to-day the vision has risen almost to *normal*. For three years the patient has been able to do his regular work, and in every way this may be classed as a perfect recovery. The technic I employ requires the use of the von Graefe cataract knife *instead* of the double-edged broad needle which Dr. Fox prefers. I make *the* scleral puncture about 6 mm. *from the* limbus, midway between the recti muscles, with the back of the knife toward the cornea, and penetrate just deep enough *to* enter the space between the retina and the sclera. I then rotate the knife sufficiently to allow the subretinal fluid to escape. When this has drained out I rotate the knife-blade back to the line of primary incision, and with a quick *thrust pass the knife through the retina*. Having gone through the *retina* I again rotate the knife at right angles and while *drawing the knife* out of the wound turn the edge of the blade back *against* the retina, so that the incision in the retina is *made* larger than the incision in the sclera. In this way I secure a double incision, in the shape of a T, which gapes *sufficiently* to permit the subsequent accumulation of subretinal fluid to escape and to allow the weight of the vitreous to press the retina against the sclera and to keep it approximated until union occurs.

Dr. Hiram Woods, Baltimore: The term "cure" seems to need exact definition. In one case seen by me there was *spontaneous* return of the detachment, without treatment; in a *second there* was reattachment after *operation by puncture, and in a third* after two months in bed with treatment by diaphoresis. One of the patients remained well, so far as the detachment was concerned, for eighteen *months*, and *another for three* years. Only in the third case mentioned was there *evidence* of improved vision. The upper half of the retina was detached and central vision was lost. *After reattachment central vision* became 20-30, but vision in the lower field was never regained. The loss of central vision I believe to have been due to the separated retina *falling over the fovea, rather than to foveal* detachment. I have never seen the separated retina regain *vision*.

Dr. Allen Greenwood, Boston: I *think in all these* questions of the operative treatment of separation of the retina, and in all the cases reported by the different men, it is fair *that the underlying conditions be told us in every case*, because the cause of separation varies much. Suppose the patient has a myopia of 20 D. The chances of operative cure are practically *nil*. If the *myopia is not too high, operative interference* gives us the best chance. I think operative treatment in simple cases of traumatic detachment of the retina is usually *not necessary. It is so in cases of separation from edema* filling beneath the retina. We all know that entire recovery sometimes occurs, particularly in cases occurring *in pregnancy*; *and I think in reporting* cures the underlying *condition* should always be mentioned.

Dr. Casey Wood, Chicago: As to Dr. Fox's operatioupper *preliminary to my discussion of what* Dr. Fox *has said*, lesur- state that as a rule the detached retina tends to replace itself without treatment. It would go back if there were not something *to drag or hold it away from* the chorioid. That is especially true of recent cases and is the reason why simple puncture, with a Graefe knife or with the broad needle, sometimes induces *a reattachment* of the retina. Letting out the post-retinal fluid, particularly if there are rents in the retina itself, may assist in bringing about a cure. If there is no rent or opening in the retina you will easily see how impossible is a reposition of the separated membrane, because there could be no free flow of fluid through the membrane. One of the purposes of the Deutschmann detachment operation is to insure such openings in the retina. In passing the knife a section is made not only of the retina but through the fibrillæ of the shrinking vitreous, the contraction of which *pulls the retina* away from its original bed. I agree that simple puncture cures sometimes.

Dr. Dodd speaks of the difficulty of *controlling patients in* the treatment of this disease. In my judgment, the patient should remain in the hospital while under the surgeon's care. Home treatment is less likely to have good results. Not only should the patient remain in bed, but I should like *to say, in* reply to Dr. Gifford, that I do not believe it is justifiable *to do even such a simple operation as* simple puncture when one may more certainly cure the patient through "bisection." At the same time I would try the non-operative methods before proceeding to this more severe procedure.

In Dr. Ziegler's operation, which I believe is an advance on simple puncture, he has only one point of retinal puncture and consequently only one of possible reattachment. The Deutschmann procedure gives two, and for that reason the latter is the better. In speaking of cure, I referred to the continuous reattachment of the retina after an interval of at least a year.

If Dr. Woods had read my paper he would see that I referred to the dictum of Hirschberg, that one may secure a reattachment of the separated retina with a return of vision or an improvement in both central and lateral acuity—i. e., a "physiologic cure;" or the detached retina may resume its original position without visual improvement—"anatomic cure."

ALCOHOL AND NEPHRITIS

A CLINICAL STUDY OF 460 CASES OF CHRONIC ALCOHOLISM *

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Amicus Socrates, sed magis amica veritas

Few problems in medicine are attended with so much confusion as the pharmacology of alcohol. Being a narcotic, a stimulant and a food, its uses are so manifold, and the dosage so variable that the study of its effects on the human body are exceedingly difficult of interpretation. Writers and teaching physicians have for decades upheld the view that chronic alcoholism is one of the chief causes of nephritis. This generally accepted view could not logically be questioned seriously until a fairly large number of carefully gathered clinical data had been furnished by a general practitioner. Clinical material from hospitals constitutes an unfair collection of patients, because they are either a decidedly inferior lot socially, or too superior, and therefore inaccessible for careful study.

Animal experiments with alcohol are also of little practical value, on account of the complexity of the technic, and the multitude of the sources of error. General practice, in my opinion, furnishes the best and the most nearly normal material for the study of alcoholism. In order to know our patients we must live among them. One may thus know one's tippling neighbor for several years before one is called on to treat him; and one is surprised to find that the much-expected nephritis is absent.

It is just this class of patients that directed my attention to the subject of alcoholism and nephritis. On tabulating the clinical findings, several interesting facts revealed themselves and the interpretation of these data will be the object of this paper. With this in view, I shall reproduce a synopsis of my own statistics from my own cases of chronic alcoholism. It is obviously beyond the scope of this paper to enter into a full discussion of alcoholism.

The following statistics are gathered from 150 patients treated by myself at the Iowa State Inebriate Hospital, in 1902, and from 311 cases in my own practice, from October, 1904, to June 1, 1910. A detailed comparison of these classes of patients would be too lengthy and will be the basis of a future publication. Suffice it for the present to study these collective tabulations and to submit my deductions therefrom.

METHOD OF STUDY AND RESULTS

The action of chronic alcoholic intoxication was studied under five heads, namely, the general nervous system, the gastro-intestinal system, the cardiovascular system, the lungs, and the kidneys. A comparison of the effects of repeated alcoholic excesses on these several tissues will demonstrate, graphically and conclusively, the varying frequency and intensity of psychic or somatic symptoms, such as are produced in chronic alcoholism. To study these facts individually and to judge them collectively is, in my opinion, a logical procedure.

1. Neuropathic and psychopathic lesions were found in nearly all chronic alcoholics, namely, in 92.5 per cent. of 461 cases. This once more confirms the teaching of pharmacologists that alcohol is essentially a narcotic; that a drinker without some nervous lesion is an exception. The trained clinician will seldom fail to discover morbid alterations in the central or peripheral nervous system, or both. Nerve cells contain more lipoid substances and lecithins than any other cells; hence the selective action of all narcotics on the neurons.

2. The effects of chronic alcoholic abuse on the gastro-intestinal systems are marked and striking. Pharyngitis, gastritis and hepatic disorders occurred in a fairly even proportion among drinkers, namely, to the extent of 82.7 per cent. of 461 cases. These morbid changes are, in my opinion, toxic in nature and not irritative from local action. The cells of the alimentary tract subserve metabolism primarily and mainly. They break up complex molecules into single ones, they come into close and prolonged contact with them, and thereby suffer damage. This explains the fact that the pharynx, the stomach and the liver suffer much more in chronic alcoholism than the eliminating organs, such as the kidneys and the lungs.

3. There are no cardiovascular symptoms which might be termed characteristic of chronic alcoholism, unless it be the peculiar fetal qualities of the heart-sounds which we know as embryocardia. I find this very frequent among drinkers, but I can offer only a tentative explanation for it, namely, the following: Embryocardia can occur only with low-tension blood-pressure, and in the absence of renal insufficiency. Hence it might be considered as a useful condition of no pathologic significance at all. That alcohol is a sclerogenic pharmakon and productive of arteriosclerosis with its usual train of symptoms may be a fact, but its demonstration would be difficult and is really not shown by my tabulations. There were cardiovascular changes, such as myocarditis, aortitis, valvular heart disease and arterior sclerosis in chronic alcoholics in 54.3 per cent. of 461 cases, but this by no means constitutes a proof of the causal relation between these lesions and the abuse of liquors. I believe it, nevertheless, to be good reasoning to ascribe the bulk of cardiovascular symptoms to the sclerogenic action of alcohol, while abstaining from an interpretation of its pathogenesis.

4. That excessive drinking is in itself injurious to the lungs cannot be proved from my statistics. These patients are usually hard workers, with careless habits and deficient protection against climatic changes. Cough is frequent among drinkers and in about 30 per cent. of all my cases it is the only ailment for which they consult the physician. In about half of these it is due to pharyngeal irritation and occurs without any pulmonary changes. The lungs excrete all narcotics, especially ether, chloroform and alcohol. They do not appear to suffer from the mere elimination of these volatile substances as such, but rather from the concomitant, de-

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

pressing and deteriorating systemic action. Indeed, there seems to be no limit to the frequency with which any cell, single or organized, can recover from a narcotic. The most characteristic actions of a narcotic such as alcohol, ether and chloroform, are these: A. It enters into a molecular association with the cell protoplasm whereby the latter remains passive. B. It leaves the protoplasm chemically intact and suspends *only* temporarily the cell's reaction to stimuli, reaching it by physiologic ways. The frequency of tuberculosis of the lungs among drinkers is, in my opinion, in no causal relation to the ingestion of alcohol. When a drinker has tuberculosis, I have never seen it to hasten the fatal ending of the disease; in fact, it seems to be of no significance in the *morbidity or mortality.*

5. From my *statistics it appears that if chronic alcoholic* excesses do have any deleterious action on the kidneys, we have no means, either clinical or biochemical, by which to detect such changes. Among 461 drinkers, only 42, or 9.1 per cent., showed evidences of nephritis, and only 24. or 5.24 per cent. showed temporary or permanent albuminuria, while 394 patients, or 85.7 per cent. of them show no evidences, either subjective or objective, of deficient renal depuration.

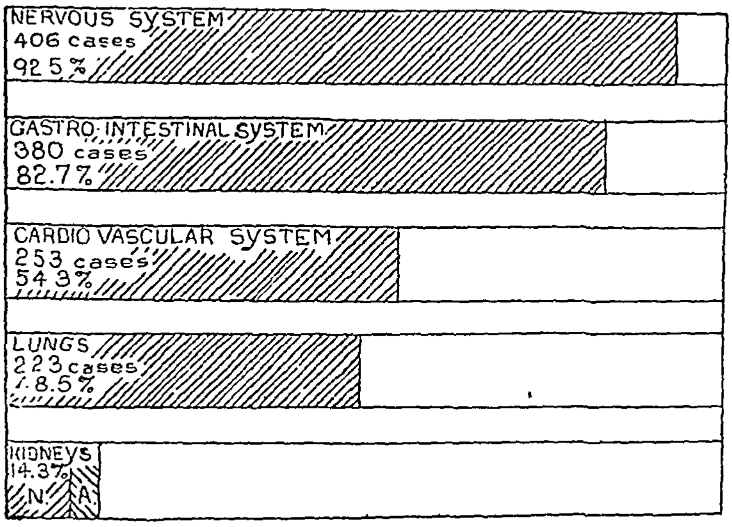

Chart showing percentage of morbid alterations in the various systems as observed in 461 cases of chronic alcoholism; N, nephritis, 9.1 per cent., or 42 cases; A, albuminuria, 5.2 per cent., or 24 cases.

Two explanations may be advanced: (a) we do not know as yet how to recognize renal lesions, or, (b) there is no lesion at all present.

NATURE OF NEPHRITIS

The diagnosis of a well-established nephritis is ordinarily easy, and is based on the anamnesis, the subjective and objective symptoms. But the recognition of the early stage of nephritis, at least of the contracted kidney, is attended with apparently insurmountable difficulties. Neither *albuminuria alone nor* cylindruria by itself would establish such a diagnosis. When we know the cell protoplasm, we shall be able to diagnose nephritis. It is a disease of metabolism initiated by some toxic processes, either autogenic or exogenic in Nature. We must approach it as a general systemic disease, not as a localized renal affection, such as the name nephritis unfortunately suggests.

If, then, in a *patient* whom we would rightly (according to our teaching) suspect of having renal lesions we find absence of the subjective as well as of the objective symptoms usually required in the diagnosis of nephritis, and if we find this repeatedly in the same patient, and collectively in so many cases, then we are justified in saying that all evidences lead only to one conclusion, *namely, that nephritis in chronic alcoholics* occurs only rarely, and if it does occur, it bears no relation to the ingestion of repeated doses of alcoholics.

The study of the comparative tabulations of morbid changes occurring in the other organs and tissues brings out a very striking contrast, and illustrates forcibly the pharmacologic properties of alcoholic liquors.

TABLE SHOWING PERCENTAGE OF RENAL LESIONS, CLINICALLY RECOGNIZABLE, AS OBSERVED IN 461 CASES OF *CHRONIC ALCOHOLISM*

	In Private Practice.		In Iowa State Hospital.		In Total Cases Observed.	
	Cases.	%	Cases.	%	Cases.	%
No evidences of nephritis	281	90.3	114	75.6	394	85.7
Albuminuria only, no casts	14	4.5	10	6.9	24	5.2
Temporary albuminuria	9	2.89	5	3.3	14	3.0
Nephritis present, alb. casts, etc.	16	5.2	26	17.5	42	9.1
Totals............	311	*100*	*150*	*100*	*461*	*100*

It is certainly remarkable that the organs and tissues whose function it is to eliminate alcohol, namely, the kidneys and the lungs, are affected least, and that the former remain almost intact in chronic alcoholism unless repeated exposures to cold, and a real cause for nephritis are added. The organs eliminating most of the alcohol are least affected by it, while the nervous tissues are always affected in some way, sooner or later. *Since this low percentage of nephritis obtained in 150 cases under my care at the Iowa State Inebriate Asylum, as well as in 310 cases in my private practice observed and treated during the last six years there,* I can not logically consider alcohol as a psychic and somatic disease-producer only, but also as an actual diuretic. It not only is an intoxicant and narcotic, but also a detoxicant, for it certainly eliminates incidentally with the ingested alcohol other toxins as yet unknown to us, but undoubtedly directly concerned with the production of nephritis, so called. In a future publication, I shall summarize the present status of our views on the etiology of nephritis. The discussion will perhaps bring out what I am forced to omit for the sake of brevity. Since I consider my *opportunities for* the study of alcohol and nephritis exceptionally good, however, and my *statistics* superior to general hospital reports, I wish *to submit the following* conclusions:

CONCLUSIONS

1. Alcohol when *taken daily*, as it is by chronic inebriates, dipsomaniacs or drinkers, is not an irritant to the kidneys.

2. When nephritis occurs in a chronic alcoholic, it is probably due to some other concomitant toxic agent, and not to alcohol.

3. Overeating, acute intoxicants, exposure *to colds,* autointoxications, infections either manifest or latent, and some metabolic disorders as yet unknown, are the real causative factors of nephritis.

4. Alcohol when taken by drinkers as food or stimulant, such as we see in *chronic alcoholism*, is a diuretic.

5. Those tissues which eliminate alcohol are least affected by it. This applies to the lungs and especially to the kidneys.

6. Alcohol, while an intoxicant, is also a detoxicant, ridding the body of various deleterious catabolic products.

7. The comparative integrity of the kidneys in alcoholics may be due to the fact that the renal cells contain very few lipoids and lecithins and that therefore they are not at all acted on by the narcotic molecule.

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ABSTRACT OF DISCUSSION

Dr. A. S. Warthin, Ann Arbor, Mich.: To what extent has Dr. Hultgen controlled this investigation by pathologic study? My experience is that the kidneys of alcoholics show a very high percentage of pathologic changes. I have never seen a normal kidney in a chronic alcoholic. I had an opportunity while in Vienna and Dresden to study the kidneys in a large number of cases of chronic alcoholism. Clinically, we may not be able to recognize these changes, which are not usually of the ordinary type of nephritis, the most common lesions being a sclerosis, scarring of the glomeruli, etc. The kidney has a smaller number of capable or normal glomeruli than has the kidney of a normal individual. The condition resembles that of the kidneys of people who have had repeated infections, whose kidneys have lost many glomeruli, being characterized by the presence of great numbers of hyaline glomeruli, and not necessarily presenting the picture of a nephritis.

Dr. H. Gideon Wells, Chicago: My own autopsy experience has been largely with an alcoholic population in Chicago, and my general impression has been that the cardiovascular system escapes more than we have believed. My experience has been fully in harmony with that of recent German writers on the subject, that the blood-vessels of alcoholics show no earlier sclerosis than those of other persons, and are often in surprisingly good condition in proportion to the age of the subject. The kidneys I have found not commonly showing the ordinary forms of nephritis seen in the non-alcoholic individual; but that there are microscopic changes, I can well believe; a number of focal round-cell accumulations are often present, and we are also apt to get a low type of epithelium, dilated tubules, etc. We usually speak of the kidney of chronic alcoholism as a "hog-back" kidney. It is broad and round, yet looks macroscopically like a kidney in good condition; the functional capacity of that kidney is another matter. We should need a systematic study of albumin, casts, etc., as well as thorough quantitative tests of capacity to obtain accurate information on this point.

Dr. Daniel N. Eisendrath, Chicago: Experience in general teaches that it is hardly fair to assume, from Dr. Hultgen's statistics and from the fact that the patients showed but small amounts of albumin in the urine, that there are no changes in the kidneys of alcoholics, for this reason: It is the indurative type of nephritis that is found most frequently in alcoholics, and in this form we seldom obtain in the urine more than minute traces of albumin. It sometimes requires repeated examinations before albumin can be discovered in such cases, as insurance examiners will bear witness. They say that alcoholics will come for examination day after day, without a trace of albumin in their urine; but that on the fifth or sixth day, there will be a trace of albumin. The same thing is true of casts. It is scarcely fair to draw the deduction, therefore, that alcohol has no bad influence on the kidneys. We know by such studies as I have spoken of that the chronic interstitial changes are the main features of the influence of alcohol on the kidneys.

Dr. J. F. Hultgen, Chicago: The same objection holds as for cardiopathic patients, the accompanying etiologic factors conditions which we find clinically render it difficult for the necropsist to assign the true cause to a given post-mortem lesion. Overwork and exposures to cold are by themselves potent causes of nephritis. Hence the difficulty of measuring at the autopsy the significance of chronic alcoholism in the genesis of Bright's disease. In looking over the literature, one may find enormous figures—20 to 50 per cent. of nephritis among delirium tremens patients. Howship Dickinson says in Allbutt's last volume, "We found in forty-eight autopsies on men who had died of alcoholism that there was no larger percentage of contracted kidneys than in forty-eight post-mortems on others who had not been associated with any liquor traffic at all." This seems to me good evidence in favor of my contention that chronic alcoholism plays a very subordinate rôle in the causation of chronic nephritis. Indeed, as we can interpret it clinically, it does not seem to have any existence at all. What Dr. Wells said about the cardiovascular system is interesting. I think that it is a confirmation of the diuretic hypothesis of alcohol. If alcohol is a true diuretic, it should be a detoxicant as well. It eliminates from the system some catabolic substances which we do not as yet know. I cannot go into the physiology of alcoholism; but the expression "hog-back" kidney in these cases is a Philadelphia term, invented by Dr. Conner of that city, and has rather frail anatomic foundations. Dr. Eisendrath says that clinical findings alone are not good enough in the diagnosis. We cannot always diagnose nephritis clinically, but when a man who drinks to excess for many years is nevertheless free from all symptoms usually associated with nephritis, then there is good reason to believe that he has none. When, in addition, he lives for a long time and has neither the petit Brightism (Dieulafoy) nor uremic poisoning, one is inclined more strongly to believe that alcohol has no effect in this direction. I think that we shall have to fall back on clinical evidence, after all; and the internists' reasoning proceeds from facts which are no more circumstantial than those of the pathologist. They should walk abreast and not in single file.

THE INFLUENCE OF MAGNESIUM SULPHATE ON THE MOTOR CELLS OF THE CEREBRAL CORTEX *

H. F. HYNDMAN, M.D., and W. E. MITCHENER, M.D.

Through extensive studies conducted by Meltzer, Auer and other investigators, it has been established, among many other important facts, that injections of magnesium salts produce anesthesia accompanied by a loss of reflexes, muscle tonus, and inhibition of the convulsions produced in tetanus. The effects are said to be paralysis of nerve cells, without preceding excitation, slight lowering of blood-pressure and shallow respiration.

The anesthetic dose, it was assumed, exercised an action directly on the nervous system, causing temporary sensory and motor depression, in that the nerve-cells of the cortex and centers in the medulla oblongata were affected. Furthermore, by local application of the magnesium solutions to the nerve trunks the conductivity of the nerve impulse is interrupted, while the contractile power of the muscle is not abolished by an anesthetic dose, since strychnin administered to an animal while under anesthesia caused convulsions to appear.

In considering the above facts, it became of interest to ascertain, whether the motor cells of the motor area in the cerebral cortex were paralyzed or affected by the dose, or whether the results secured were due to paralysis of the sensory cells only.

The investigations were conducted on rabbits, for which subcutaneous injections of 1.5 gm. of magnesium sulphate per kilo animal produced, in about fifty minutes, anesthesia, that lasted two hours.

Three sets of experiments were decided on, which, briefly outlined, were as follows:

First, in order to ascertain the minimum dose of Faradic current which, when applied to a definite locality in the motor area, produced a definite, measurable muscular response when the animal was put under ether anesthesia, during which the motor cells of the cortex were not paralyzed. The motor area was exposed and the minimum strength of current determined. With this known strength the motor cells were then tested under magnesium sulphate anesthesia. If the known muscular responses could be elicited, it would be assumed that the motor cells were not paralyzed.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at St. Louis, June, 1910.

* From the Physiologic Laboratory of the University of Kansas, Lawrence, Kan.

Second, in order to be assured that the current actually stimulated the motor cells and did not produce the muscular contraction by an escape of the current to the motor fibers, the thin layer of the cortex, containing the motor cells was carefully removed, the fibers exposed and again the minimum current determined that would, under this condition, produce the muscular response that was secured when the motor cells were intact. If this current proved to be equal to or less than that secured with the intact cortex we might be led to believe that the motor cells were paralyzed.

Third, to be perfectly sure that the motor cells were or were not paralyzed, it was further necessary to ascertain the strength of current that could produce a known muscular response, when the motor cells were stimulated by impulses reaching them through afferent nerve fibers.

With these three data, obtained under ether anesthesia, it was assumed that the means were at hand by which the desired information could be gained on the rabbits, under magnesium sulphate anesthesia.

In securing the results for the first set of experiments, the motor area was exposed under ether anesthesia. The strength of current was then ascertained, which would produce a characteristic contraction in the leg muscles of the side opposite to the side stimulated, when the insulated platinum electrodes were placed on a well defined area. Then the rabbit was allowed to come out from under the anesthesia and given a dose of magnesium sulphate. As soon as anesthesia set in, the procedure above described was repeated, for the same as well as for the opposite motor area. As a control, the same method was followed on a rabbit that had been given a dose of magnesium sulphate without the preliminary ether. A comparison of these results showed that it required practically the same strength of current to elicit the response under magnesium sulphate as it did under ether anesthesia.

The method followed to obtain the results for the second set of experiments differed from that described above only in certain particulars. As before, the minimum strength of current required to produce the characteristic contraction, when the defined area was stimulated under ether anesthesia, was first found. Then the cortex containing the motor cells of that area was carefully removed. Again, the least strength of current was determined that produced the characteristic contraction, when the electrodes were placed directly on the now exposed motor fibers. It was found that it required a greater strength of current to elicit the response when the fibers were directly stimulated, than when the impulses reached them through their motor cells.

The above procedure was next repeated on the motor area of the other side, but under magnesium sulphate anesthesia. Furthermore, as a control experiment, magnesium sulphate anesthesia was secured at the beginning, the minimum strength of current then found that produced the contractions in the opposite leg when the insulated electrodes were placed on the motor cells. This current was then compared with that secured after the motor cells were removed, and the fibers directly stimulated, both for the same as well as for the opposite motor area. It was interesting to find that the results agreed with those obtained under ether anesthesia.

The third set of experiments consisted in isolating the dorsal roots of the seventh and eighth cervical roots, and determining the strength of current applied to their central cut ends, that would cause certain muscles of the mouth to contract reflexly under ether anesthesia. These steps were then repeated under magnesium sulphate anesthesia, both for the same and for the opposite side. In this case, the afferent stimuli reached a motor cell in the nucleus of the facial nerve, which evidently was not paralyzed, and which responded to the same minimal strength both under ether and magnesium sulphate anesthesia.

A comparison of all the experiments showed that practically the same minimal strength of current was required to produce the same extent of contraction under ether as under magnesium sulphate anesthesia, whether applied directly to the motor fibers, indirectly to the fibers through the motor cortical cells, or when applied to afferent fibers that secured a reflex response through a motor neuron; and that a greater strength of current was required when applied directly to the motor fibers than when the impulses reached these through stimulation of the motor cortical cells. We conclude, therefore, that magnesium sulphate anesthesia does not paralyze the motor cells of the cerebral centers or cortex in the rabbit.

We take this opportunity to thank Dr. Ida H. Hyde, under whose supervision these experiments were conducted, for her many kind suggestions.

ABSTRACT OF DISCUSSION

Dr. Louise G. Robinovitch, New York: The article speaks of "blocking" impulses by means of electric currents when testing the effects of anesthetic agents. In my experiments of the last five or six years I found it impossible to rely on electricity for such tests, when anesthetics were being administered to dogs or other animals. I have been using special electric currents, instead of chloroform or ether, for analgesia for operative laboratory work. While experimenting on the method of resuscitation of dogs in a condition of apparent death caused by chloroform, the carotid artery was exposed while the dog was under the influence of electric analgesia; the artery was then connected with the manometer and the dog chloroformed intensively with the purpose of causing apparent death. If through error the chloroforming was commenced before the breaking of the electric current, the animal became extremely agitated, and the blood-pressure rose so high that the "rider" was thrust out of the manometer.

In my published papers on electric analgesia I also report the incompatibility of electric analgesia with morphinization; a normal dog was put under the influence of electric analgesia with some ten volts registering 1.5 milliamperes. On the following day, the same dog was thoroughly morphinized. The animal remained on the table in a stuporous and irresponsive condition. The electric current was then made to course through the animal's body, cathode at the forehead, anode over the loins. The dog became excited when ½ volt was turned on and jumped off the table when 1 volt was turned on, the amperage being too small to be registered.

The experiments showed conclusively that electric currents used for producing sleep produce the effect through a mechanism that differs from that characterizing the production of sleep or anesthesia with chloroform, ether, morphin, chloralose and other agents. Electricity should not be used as a "block" when testing analgesic effects of various other anesthetic or analgesic agents, because electric and other analgesics are incompatible.

THE RELATION OF THE BLOOD-VESSEL WALL TO COAGULATION OF THE BLOOD*

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It has been shown by numerous observers, especially Wooldridge[1] and Morawitz,[2] that tissue extracts, such as those obtained from grinding up liver, kidney, muscle, etc. with salt solution, have a marked accelerating action on the coagulation of blood. Artus[3] has demonstrated that if salt solution was simply allowed to run over the surface of tissue which has been rendered as free as possible from blood the salt solution acquired an accelerating action. And if the solution of salt were run over the surface more than once, the accelerating properties of the salt solution increased in proportion.

This substance, or perhaps it would be better to say, these substances, although they have never been identified, have been given the name thrombokinase or zymoplastic substances.

And it was these to which Sahli[4] referred to in 1905 when, after a most careful study of hemophilia in all its aspects he came to the conclusion "that the cause of the absence of natural blood clotting in hemophilia is to be sought in that the injured blood-vessel wall, at the place where the thrombus ought to be formed, does not furnish sufficient quantities of thrombokinase or zymoplastic substances necessary to produce fibrin-ferment from the thrombogen or betaprothrombin."

This unusual conclusion he reached by a process of exclusion, bringing no experimental proof to bear. Indeed, the only mention of the blood-vessel wall extract that I have been able to find in the literature has been that of Loeb[5] in 1904, and that was only in passing.

Working in a field different from the other observers and from an entirely different point of view, I came on this subject by chance. And as it seemed to explain some of my difficulties, a number of observations were made. They were quite interesting and rather striking and may possibly add a little to our knowledge of this complex subject.

In the course of some recent work on the surgery of blood-vessels,[6] it was observed that clotting occurred on the adventitia of the vessels with surprising rapidity, following contact between it and the blood. Furthermore, in common with others who have worked in this field, we soon found that the success of a blood-vessel suture depended primarily on the proper treatment of the adventitia; unless every vestige of it was removed from the cut edge of the vessel and the line of suture, failure almost invariably occurred on account of the formation of a thrombus.

In considering this and in studying it with a view to overcoming the difficulty it seemed possible that this action of the adventitia might not be entirely mechanical, as hitherto believed, but that possibly there was in addition to this factor, a substance contained and secreted in the adventitia, which, on injury to the vessel, was poured out and aided in the clotting process. Further consideration led to the belief that possibly this substance was contained not only in the adventitia, but in the other two coats of the vessel as well, and that in all clotting and thrombus formation, both within and without the vessel, this factor had to be dealt with.

In an experiment based on this theory, then, a dog was bled to death, following which its aorta was removed. After this had been thoroughly washed in normal salt solution to remove all visible traces of blood, it was divided into its three component parts: adventitia, media and intima, a procedure accomplished without great difficulty. The three coats were then separately ground up in mortars containing sand and a little salt solution—10 to 20 c.c. The extracts thus obtained were filtered off into three separate dishes.

From the blood of another dog, some fluorid plasma (0.3 per cent.) was made, likewise some blood-serum. To 1 c.c. of the fluorid plasma, 0.5 c.c. of the extract of the adventitia was added; no clot resulted, but when to this, 0.5 c.c. of serum was added a solid clot formed in about one and one-half minutes. Plasma plus serum alone formed no clot. Plasma plus extract of the media plus serum, same quantities as before, formed a clot in about the same time as when extract of adventitia was used. The same phenomenon occurred when extract of intima was used.

With this knowledge then—that all three coats of the vessel acted alike—it was decided to work henceforth with the whole blood-vessel wall. And since it was feared that fluorid plasma might obscure matters, it was also decided to work with the pure blood, always using controls.

From the vessels of another dog, both veins and arteries this time, another extract was made in the same way as the former ones. Two test-tubes were then taken, thoroughly cleaned, dried and oiled inside with a neutral oil. In one a few drops of the extract were placed, in the other nothing (all work was done at room temperature). A dog was then placed on the table and after being etherized, a cannula which had been cleaned, dried and oiled exactly as the test-tubes had been, in order to retard clotting, was placed in one of its carotid arteries. Equal amounts of blood, about 3 c.c. were allowed to flow into each of the test-tubes. A solid clot formed in about forty-five seconds in the tube containing the extract. The blood in the other tube remained fluid for two and one-half to four minutes, clotting then gradually taking place—the usual coagulation-time for the dog.

As it was desired to get a blood that would not clot at all, a chicken[7] was procured and bled through a cannula absolutely clean, free from dust particles, dried and oiled, into centrifuge tubes prepared in precisely the same way. The blood thus obtained was centrifuged, a clear straw-colored plasma resulting, which remained fluid at room temperature for several days. A sodium chlorid extract was then made from the veins and arteries of another chicken, which had been previously bled to death; the vessels as usual were thoroughly washed in sodium chlorid before being macerated.

Two of the oiled test-tubes were again taken and into each the same amount of chicken plasma was poured. To one of them a few drops, about 0.3 c.c. of chicken vessel extract were added; to the other nothing. A solid clot suddenly formed in the one containing plasma plus extract within one and one-half minutes; the other remained fluid over a day.

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* From the Hunterian Laboratory of Experimental Medicine.

[1] Wooldridge: Die Gerinnung des Blutes, Leipsic, 1891.

[2] Morawitz, P.: Beiträge zur Kenntnis der Blutgerinnung, Deutsch. Arch. f. klin. Med., 1904, lxxix.

[3] Artus: Jour. de physiol. et de path. gén., 1902, iv, 281.

[4] Sahli, H.: Ueber das Wesen der Haemophilie, Ztschr. f. klin. Med., Bd. 56, 1905.

[5] Loeb, L.: Virchow's Arch. f. path. Anat., 1904, clxxv, 10.

[6] Bernheim, B. M.: Bull. Johns Hopkins Hosp. 1909, p. 840.

[7] Delezenne: Arch. de Physiol., 1897, series 5, ix, 333. Compt. rend. Soc. de biol., 1896, p. 782.

As it was desired then to get a more concentrated solution, the veins and arteries of five dogs were taken, washed carefully in sodium chlorid and ground up with sand in a meat grinder. The resulting mass was mixed with kaolin, after which it was placed in a Buchner press, and the tissue juices expressed, about 20 c.c. of a watery-looking fluid resulting. Two-tenths of 1 c.c. of this fluid clotted 3 c.c. of a dog's blood in forty-five seconds, the clot beginning to form in thirty seconds. The control did not begin to clot until after two minutes, and was not finished until about three and a half to four minutes, the usual clotting time for dog's blood.

Then the tissue-juices from pig's aortas, obtained and prepared just exactly as those of the dog had been, were obtained. A young pig was then procured and a cannula inserted into one of its carotids. Into one test-tube 0.2 c.c. of the juice was placed, into the other nothing. Three c.c. of blood were run into each tube. Clotting occurred within forty-five seconds in that tube containing the extract; in the other not until about the expiration of three and a half to four minutes. After repetition and confirmation of the test, the same juice from the pig's aorta was tried on dog's blood, with the result that a clot suddenly formed within forty-five seconds. Following this, the pig's juice was tried on rabbit's blood and here, too, clotting occurred with the same rapidity and constancy, while the controls remained fluid a normal length of time—two and a half to four minutes.

On heating these extracts and juices, it was found that they partially lost their activity and on prolonged boiling they lost it completely. Likewise, the activity disappeared if they were allowed to stand at room temperature for any length of time—say over twenty-four or thirty-six hours. If they were kept on ice the activity remained much longer than if they were kept at room temperature.

A few drops of acetic acid added to the juice threw down a rather heavy whitish flocculent precipitate. This precipitate, after being washed with sodium chlorid, and then taken up with a few drops of sodium carbonate, acted exactly like the whole juice, and with the same rapidity, while the filtrate was practically inactive.

It would seem therefore from the above that just as in the liver, muscle, etc., so in the blood-vessel wall itself there is a substance which, once the vessel is injured, probably aids in the formation of a clot. And if this is true, those engaged in the field of vascular surgery have still another problem to consider in connection with the already very difficult and trying technic. The final solution of this problem, however, rests with the pharmacologists and physiologists, as is the case with many other problems of modern medicine.

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Endemic Goiter in Brazil Due to Schizotrypanum.—C. Chagas writes to the *Brazil Medico* to describe what he thinks is a new morbid entity, the cause a schizotrypanum named for Oswaldo Cruz. The affection in question is almost invariably accompanied by enlargement of the thyroid or parathyroids. The incipient goiter has been discovered even in infants less than six months old, which shows, he says, that the water can scarcely be incriminated, the infants at that age being fed exclusively on breast milk. This tropical infectious disease seems to be responsible for much mortality, especially in children, in the contaminated zones, and also for chronic illness and physical degeneracy, due to the presence in the blood of the *Schizotrypanum cruzi*. His preliminary report is published in the *Brazil Medico*, 1910, xxiv, 163.

PHARMACOLOGIC FETISHISMS

A SECOND CONTRIBUTION*

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Last April I had the honor of reading before the Georgetown Medical Society a paper with the above title, which was an attempt to refute the following therapeutic delusions: (1) that olive-oil will dissolve gall-stones; (2) that valerian is valuable in hysteria; (3) that tannic acid will stop internal hemorrhage; (4) that alcohol and ether hypodermically injected are indicated in shock and collapse; (5) that colchicum cures gout; (6) that the anilin dyes are tissue antiseptics; (7) that epinephrin given by the stomach or hypodermically acts as a heart stimulant; (8) that potassium iodid will affect the scleroses; (9) that chlorate of potassium will cure stomatitis; (10) that the hypophosphites and phosphates are beneficial in neurasthenic and adynamic states; (11) that lithium salts are indicated in the uric acid diathesis; and (12) that calcium salts will stop internal bleeding.

The article was published,[1] and to my great surprise it attracted more than a passing notice. Some letters reached me from various parts of the country objecting to the opinions expressed. Some of my confrères in the city likewise took me to task for my unorthodox beliefs. I hope that my continued adherence to all of the opinions delivered at that time will not be ascribed to stubborness or egotism; and for the various pharmacologic and physiologic grounds upon which those opinions are based reference may be made to the original paper.

It is my desire at this time to present briefly another dozen of similar delusions and to attempt their discussion as impartially as possible, basing the arguments on what appears to be the only firm ground in matters pharmacologic, namely, the physiologic actions of the drugs concerned.

I. LEAD AND OPIUM WASH IN SPRAINS

In the out-patient department of the hospital some time ago, one of the students came to me and said "Doctor, will you please write me a prescription for lead and opium wash? I want to use it for a case of sprain."

"No," I replied, "such a thing would be contrary to rational pharmacotherapy and I am surprised that you have so far forgotten your instructions in the laboratory and the lecture room as to ask me such a thing."

And yet the student was morally justified in doing so under the circumstances, for while his pharmacologic training had supplied him with certain facts with respect to the local effects or rather lack of local effects of lead and opium, yet when his practical hospital dispensary experience began, he saw his leaders and his teachers daily applying the classic lotion of lead and opium. Why should he not follow their illustrious example? The following are the reasons why he should not:

Opium is entirely devoid of any peripheral effects, especially when applied to the unbroken skin. Even when applied directly to exposed nerves morphin has practically no effect on their irritability. The sensibility of the skin is lowered by a subcutaneous injection of morphin, but the action involves the whole superficies of the body, and is due to central action. Opium therefore, or even morphin itself, is of no service whatever as a local anesthetic, when applied either to the skin or mucous membranes. Absolutely the same is true of lead, which is one of the least corrosive, but one of the most astringent of the heavy metals. Applied to the skin, however, the salts of lead are devoid of action, because the precipitation of proteids is prevented by the intervention of the epithelium.

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* Read before the Clinical Society of the District of Columbia, Feb. 14, 1910.

[1] THE JOURNAL A. M. A., May 15, 1909, lii, 1557.

The application of hot water is so simple, so cheap and so unspectacular that it does not appeal strongly to the imagination. But it is after all the most efficacious method of relieving the pain of sprains.

II. ACONITE INTERNALLY IN NEURALGIA

Once on a time I had almost infinite faith in the following prescription which I obtained from a manual of formulas:

℞.	*Crystallized aconitin*	gr.	1/20
	Methylene blue	gr.	30
	Powdered nutmeg	gr.	30
	Codein sulphate	gr.	8
	Extract cannabis indica	gr.	4

15 capsules—one every four or five hours.

There is no doubt of the efficacy of this mixture, but the fetish consists in attributing to the aconite what is accomplished by the two narcotic ingredients, codein and cannabis indica, particularly codein. The first three ingredients are entirely superfluous. Aconite, when locally employed, first stimulates the peripheral terminations of the sensory nerves, more especially those of common sensation. The stimulation finally passes into depression, and thus induces a sense of numbness at the point of application, and when poisonous doses have been used, this numbness extends over the body. The rational inference from these facts is that the local application of aconite or of aconitin, particularly when measures are taken to effect their penetration, may be of some service in benumbing the sense of pain. Hypodermic injections are precluded on account of the severe and enduring pain which they cause. When, however, the drug is internally administered in therapeutic doses, the benumbing effects of aconite are not produced.

The methylene blue and powdered nutmeg remain to be accounted for, but while the former imparts to the urine a color familiar to the washerwoman, this is not sufficient excuse for its insertion, while the powdered nutmeg does not even increase the cost of the prescription enough to influence the psyche of the patient.

III. SPARTEIN AS A CARDIAC TONIC AND SUBSTITUTE FOR DIGITALIS

I had a long argument with an enthusiastic confrère some time ago on this subject, and at its conclusion we parted, each convinced of the other's ignorance. The argument degenerated into a dispute and nothing was accomplished. "A man convinced against his will, is of the same opinion still." In dealing with this particular fetish, I shall therefore attempt to be particularly cool and impartial, although the temptation is strong to treat it more summarily.

Spartein is a liquid alkaloid found in the common broom plant, along with a neutral substance, scoparin. Chemically it is a pyridin derivative and is so closely related chemically to two other alkaloids, namely, coniin and gelseminin, that they are always considered together. Now, although coniin and gelseminin are so closely related to spartein chemically and also in their pharmacologic behavior, no one has ever suggested using them as heart stimulants. It is not my purpose, however, to attempt to show why spartein was ever suggested as a cardiac stimulant, for indeed one may search through every experimental analysis that has ever been made of its action on the normal animal without finding the shadow of justification for it.

The peripheral termination of motor nerves are paralyzed by spartein (curare action). The rhythm of the heart is slowed and its contractions rendered weaker by it—a very strange action for a heart stimulant. No increase in the arterial pressure is observed.

Its advocates can say, with truth, that like digitalis, it slows the heart. But the heart can be slowed by choking the patient provided the process be kept up long enough to produce asphyxia. While spartein slows the heart it does so by depressing its ganglia. Digitalis, on the contrary, slows the heart by vagus stimulation. Spartein is less poisonous than coniin or gelseminin and this is why it was not found out sooner by the general practitioner, while to the pharmacologist the entire similarity of all three of these alkaloids has long been a matter of common knowledge.

Spartein is therefore of no value in heart disease and is no substitute for digitalis.

IV. NITROHYDROCHLORIC ACID IN DISEASES OF THE LIVER AND JAUNDICE

When the instructor in clinical medicine shows the senior class a case of icterus he naturally describes the various pathologic states which combine to produce it. In doing so his description is strictly based on well-attested scientific facts.

In dealing with the application of drugs to the treatment of the case, however, the same care is not always bestowed. Custom and hearsay and empiricism are frequently allowed to rule. If this were not the case nitrohydrochloric acid would never have achieved the reputation which it seems to hold, that it possesses some occult and wonderful influence on the liver. As a matter of fact, dilute nitrohydrochloric acid can have only a simple acid function in the alimentary canal, and can be absorbed only after its neutralization.

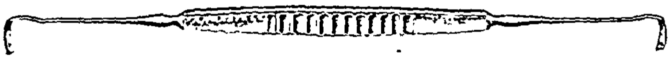
A small amount of chlorin is, however, present in the acid, and it is not inconceivable that this may have some effect on the liver, but no proof of any such action really exists. One fact concerning the treatment of liver diseases by dilute nitrohydrochloric acid, which incidentally arrests the attention, is that some authorities advise its use as an external application over the liver or in a bath or even a foot-bath. If the acid works as well in a foot-bath as it does internally perhaps it would work as well in the bottle as out of it.

V. PHYSIOLOGIC SALT SOLUTION AS A HEART STIMULANT

Do not rise in immediate rebellion at this. I do not mean to say that normal salt solution is of no value, but simply that it is not a heart stimulant. When a considerable amount of blood has been lost through hemorrhage, the introduction of physiologic salt solution (0.9%) in varying amounts is much practiced, though the quantity used has been materially lessened of late years to the great benefit of the patients. For it has been shown that the introduction of large amounts of physiologic salt solution is not an entirely innocuous process. The blood becomes much diluted, then highly concentrated, and a considerable amount of hemoglobin is set free in the plasma and these effects may last a week. The remedial effects of the treatment have been denied by some (Feis). The advocates of the treatment have claimed that the heart is directly stimulated, and that the character of the fixation, and then completes the incision, which need not include more than five-elevenths of the corneal margin. A conjunctival flap should be made when possible, but always the incision should be upward and in the corneal margin.

6. Still grasping the tendon of the internus, the operator lays down the knife and takes up the iris forceps, with which he seizes the iris opposite the center of the corneal incision, *and gently drawing it out, directs* the assistant to clip it close to the forceps, thus insuring a small iridectomy. (Through several operations I wavered between a small iridectomy and no iridectomy, but have finally settled on the correctness of a small iridectomy. It facilitates the dislodgment and delivery of the lens, and the only objection attending it is the bleeding which sometimes follows the cutting.)

7. Still grasping the tendon of the internus, the operator lays down the iris forceps and takes up the detacher. He easily passes it through the corneal incision, *directing the free point into the pupillary opening*, and passing it beneath the nasal part of the iris, in contact with the anterior surface of the cataract. The angle of union of the two curves, and the vertical curve *itself*, are easily passed between the iris and the cataract. When thus passed, the horizontal curve must rest on the cataract about half-way between its center and its lower border, while the vertical curve must rest on the cataract half-way between its center and its temporal border; and both curves must be behind the iris, so that it may not be injured, when the dislodging pressure shall be made. This is the *primary* position of the detacher. On two easily executed movements of the detacher depends success in freeing the cataract from *its ligaments*: *First, by rotating the instrument on its long axis outward* the vertical curve is made to press the outer edge of the cataract backward, while it makes the inner or nasal edge advance to the same extent. This pressure, when properly made, tears loose the lateral (both temporal and nasal) ligaments, almost from top to bottom. *The detacher is now returned to its primary position*, and the second movement is effected by advancing the upper end of the instrument in such a way as to make pressure with the horizontal curve. This pushes backward the lower part of the cataract, while it causes the upper margin to advance to the same extent. This tears loose the remaining ligaments above and below, which were not torn by the first rotation. The rotation of the cataract, first on its vertical axis, detaches all lateral ligaments, and second, on its horizontal axis, detaches the ligaments above and below. The two movements together sever the ligaments throughout the entire circle. *After the second rotation* the detacher is returned to the primary position, and then removed in the reverse order of its introduction.


Cataract-in-capsule detacher.

9. The fixation forceps, having been used while making the corneal incision, while doing the iridectomy, and while using the detacher, must now be laid aside. In one hand the operator now takes the Daviel spoon, *with the back of which to make pressure* on the lower part of the cornea for the delivery of the detached cataract. In the other hand he takes the cystotome, with the shank of which to make counter-pressure, if necessary, until the cataract begins to emerge, at which moment, while keeping up the pressure, he ceases to *make counter-pressure, and with the point of the cystotome transfixes the cataract from behind, and lifts it out of the eye.* The moment after transfixion all pressure is removed, thus lessening the risk of escape of vitreous.

10. If any iris is in the wound, it is replaced; the edges of the corneal cut are coapted and the conjunctival flap, if any, is smoothed out. Now the operator takes the lid elevator in his own hand, and gently places the lid in its normal position.

11. The after-treatment is that usually followed, and is directed toward the prevention of infection of the corneal wound *and to guard against iritis.* Should either of these conditions arise, as they may after any operation for cataract, they must be vigorously fought with *our best and most approved agents.*

In the eight months since the detacher became a finished instrument, thirty-eight operations with it have been done in Nashville, *nineteen by myself, twelve by Dr. Hilliard Wood, four by Dr. M. M. Cullom, two by Dr. George H. Price, and one by Dr. J. P. Crawford.* The cases are too few and the time covered too short to justify a detailed report of results. Suffice it to say that I am satisfied, and that my local confrères share with me this satisfaction. My operation has been honored in its own city, which means much in its favor.

In closing, I may be allowed to make the following claims:

1. The detacher is my own invention.
2. The method of fixing the eyeball through three vital steps of the operation is mine.
3. The method of detaching the cataract is mine.
4. The method of doing the iridectomy is mine.
5. The method of transfixing the cataract, from behind, as it begins to emerge, and *lifting it out of the eye, the pressure ceasing after the transfixion,* is mine.

Before using my detacher and applying the methods as set forth above, on the human eye, free use should be made of fresh pigs' eyes. *On pigs' eyes my operation* will not suffer in comparison with the Smith Indian operation, or with any other operation. On the human eye, *whether the cataract is ripe or unripe,* the operation set forth in this paper is the easiest, the safest and the best.

137 Eighth Ave. N.

MY EXPERIENCE IN THE OPERATION FOR CATARACT *

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As so much is being written on the extraction of the lens in its capsule by those who number their operations by thousands, as do some operators in India, a few words may not be out of place by one who belongs to the large majority of operators in this country who cannot truthfully report forty cases in one year. I shall mention, therefore, some of the dangers which have beset my path, not in the more difficult operation above mentioned, but in the methods of *extraction* as usually made.

After practicing medicine and surgery in private, and as surgeon in the army for nearly three years during the civil war, *I studied eye diseases* under the late Dr. E. Williams of Cincinnati in 1867, and entered his office later as his assistant. Dr. Williams, according to the late Dr. Samuel D. Gross of Philadelphia, was the first regular physician in the United States to make eye diseases a specialty. Others treated eyes long before his day, but they practiced medicine and surgery also. While with Dr. Williams I took the names and records of every patient on whom he operated for cataract (and have them still) and they number but fifty-two in one year. His patients were very numerous; they came from our northern lake region to the Gulf of Mexico; from near Pittsburg to the Rocky Mountains. And it should be remembered that eye specialists were comparatively few in those days; now they are almost as numerous as laparotomists.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

When in 1871 I located in Indianapolis there was but one regular practitioner who did much eye work, but he did not confine his practice thereto; nor did I know of another in the state. Now I know of no town in the state with a population of fifteen thousand that has not two or more specialists on eye, ear, nose and throat. From these figures how many do you suppose extract fifteen cataracts in one year? Would such men dare to extract the lens in its capsule?

The late Dr. George C. Harlan of Philadelphia tersely described the necessary qualifications of an eye surgeon as follows: "He must have good vision, a steady hand, coolness and judgment in difficulties and a full appreciation of his responsibilities." Other eminent men have added that he should cultivate ambidexterity, and by all means practice medicine and surgery for several years; then study under a master in eye work before beginning this highly important specialty.

Senile cataract (as the name implies) usually occurs in elderly persons; hence the importance of a very careful investigation as to the general physical condition of the patient before operation. Thirty-three years ago I operated on a farmer whose health seemed to be excellent, and he so reported it. The combined extraction was made; the man did well; on the twelfth day he could read ordinary print with a plus glass; but on the fourteenth day he had a severe chill, followed by a high fever with vomiting; this continued for some days and started an inflammation of the uveal tract, which caused the loss of his eye. Unfortunately he had failed to inform me that he had suffered from malarial fever the previous autumn. Three years later the lens of his remaining eye was ripe, when I made a preliminary iridectomy, and extracted it two months later, but before doing so satisfied myself that he was in no danger from malarial poison. The man is now past his eightieth year and can see to read very nicely. I encountered a similar case a few years after. A woman not 50 years old was brought to me by a physician from a neighboring town for operation. He reported her health as being the best. Her eye was examined in every way and found to be in favorable condition for operation. The extraction was done and the woman did well until the seventh day; then, when I called to dress the eye, she was raving, had torn the bandage off, and declared that the woman who kept the boarding house was trying to poison her. She grasped my wrists and said that she would not release me until I took her from the house. With the help of a physician she was taken to a hospital, where she died in a few days from typhoid fever. I learned soon afterward that before she came she had been nursing her husband through a very severe illness from the same disease, and that she had made him promise that as soon as he was better he would have her cataract removed.

One other patient I must mention. A farmer, over 70, was operated on and did well until the tenth day, when he complained of a severe pain in the calf of his leg on the opposite side to the diseased eye; in a few days the limb became cold, gangrene soon came on and the leg was amputated. When the surgeon removed the tourniquet no arteries required ligation, as they were calcareous. The man died in a few weeks. Some of his friends said that the operation for cataract caused the trouble in the leg. Others said "No," as it was on the opposite side. These cases show the importance of a thorough physical examination before cataract extraction.

I have had very poor ultimate results in patients addicted to the use of whiskey ten or more times a day for years. The operation may be faultless and the sight very good for a short time, but congestions and subacute inflammations hang on so long that vision is much impaired and often lost.

Women who suffer much for years after the menopause with flushed faces and eyes are not good subjects for cataract extraction. One of these is now under my care. She was operated on by the combined method two months ago, went home able to read, and was given my usual instruction to be very careful in no way to expose the eye for four weeks. When she reached home she found her husband very ill with appendicitis, from which he died. She was up with him night and day for ten days, getting but little sleep. I saw her one month afterward, with vision only 6/CC. I used the fluidextract of ergot internally, and her vision, she reports, is much better. Ergot has accomplished much in several of these patients.

In 1895 a retired capitalist from a distant city, who was blind in both eyes, was operated on—simple extraction. He did well and was ready and dressed for the train when he fell to the floor of the hospital and was unconscious for a short time; he was taken home on the following day and died shortly afterward. A dear old lady, aged 70 years and blind in both eyes, had a similar result after a simple extraction. When her husband and daughter came to take her home I put a glass on her to show the family that she could read; they were delighted, but their joy was soon turned to mourning. She was about to step into the carriage, fell to the pavement and was taken back to the hospital, where she died in one hour.

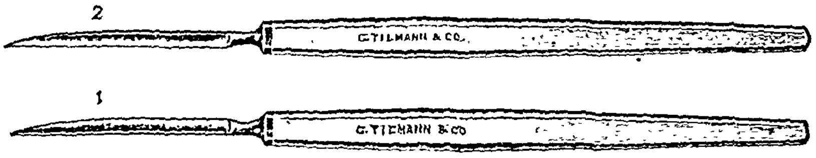
These cases depress one very much, and it is impossible to convince the friends and relatives that the operation was not the cause of death. I recall two simple cataract extractions in large fleshy women, both of whom had profuse retinal hemorrhage after faultless operations, and after the bandages were applied, and the patients were in bed; of course the eyes were lost.

I cannot conceive of anything which makes the operator feel worse than do these unlooked for results which so injure his reputation.

Three of my patients became maniacal in from two to five days after the extraction; they tore the bandages from their eyes and raised quite a disturbance; two of these were women, one a vivacious Irishman; I looked for bad results, but they did well. Some patients have been troubled with illusions and hallucinations. One of these was the wife of a poor physician in a small town, well educated and very fond of books; she had been blind for several years and had led a lonely life. I made a simple extraction on one eye, which gave her excellent vision. Some time after she returned home and found that she could read fine print; she was so happy that it slightly unbalanced her mind. She then sent to inquire of me if I ever prescribed glasses which enabled my patients to see their friends in the spirit world, as she did. What a gift this would be!

Others I have treated have returned home in two or three weeks delighted with their improved vision, but a few weeks later letters have been received concerning their failing sight, and when they came to me later I have found inflammation of the chorioid which, in spite of all treatment, has ended in blindness. Others have not only lost the eye from which the cataract was removed, but also the second eye from sympathetic iridochorioiditis.

Glaucoma is another dread monster which has occasionally attacked my patients years after a successful extraction resulting in good reading vision. I now have a patient, a woman, aged nearly 70, from whose left eye I made a simple extraction seven years ago, and did the same on the right eye nearly four years after. She had very white hair and light, soft blue eyes, the pupils were so round and natural that no one could see that an operation had been made. I felt very much pleased with the result, as did the patient. Recently she came to see me when I found the right eye very hard and the vision reduced to 10/CC. Myotics failed to reduce the tension and, to my great regret, an iridectomy had to be made. The eye is now better, vision is 16/C, but as to the ultimate result time alone can tell. Other patients have had hyalitis with dense floating bodies in the vitreous, some have suffered from chorioidal and retinal exudates and hemorrhages many years after ideal extractions. All operators long engaged in this work must have had many like results.



Knives with convex edge (1); and with concave edge and rounded back near the point (2).

For ten or more years I operated on both eyes if everything was favorable and the patient desired it. One of these patients was a farmer, aged nearly 88, tall, wiry-looking, straight as an arrow, who was a soldier in the war of 1812. His eyes were in the best condition for operation. I extracted both lenses with iridectomy. It was before the days of cocain; he did not squeeze his eyes or move a muscle during the operation, nor did he have one bad symptom in either eye. He remained at his daughter's home in the city for five weeks, when he returned home, fitted with glasses and able to read small type, which he continued to do until a few weeks before his death, which took place at the age of 106 years and 3 months. When I learned that one of the best operators in the land had lost both eyes of a patient from a double cataract extraction, I received such a shock that I immediately ceased to operate on both eyes at one sitting; yet, strange to say, in these 11 patients which I recall (doubtless there are more on my books) I did not have a bad result, in one of these 22 eyes, in which the vision equalled from 20/L to 20/xx in one case. When I think of this unwise proceeding I almost tremble. Surely "the wind was tempered to the shorn lamb."

For a few years I operated on one eye if ripe, but only partially so in the other; I do so no more, but refuse to operate on one eye when the patient can read with the other.

PRELIMINARY IRIDECTOMY

This I found to be the safest of all methods in the treatment of cataract. With it I have saved many eyes which would most certainly have been lost had I attempted extraction; especially is this the case when the vitreous is fluid as water. In some of these I have couched the lens subsequently. One was as follows: A frail little woman, past the forty-fifth year, suffered from trachoma in early childhood; she had been cured, but had lamellar cataract in both eyes; she was able to read for years when the back was to the light, but when I saw her the periphery of each lens was opaque. I made a small iridectomy on one eye when some fluid vitreous trickled out. In a few weeks I couched the lens, and did the same in the other eye some months later. She was able to read with either or both eyes for years, but I learned that she had to be operated on later for trichiasis by an esteemed member of this society who resided near her in a distant city. She called to see me after a few years, when I saw the lenses floating in the vitreous humor as in water. In several cases patients have consulted me who had lost one eye from an operation made by able men in distant states. A small iridectomy was made when a rush of very fluid vitreous escaped. On the fourth day the chamber was clear and revealed a shrunken lens with a narrow artificial pupil above, which enabled the individual to go about the streets and discern large letters; I did not touch the lens afterward, but "left well enough alone."

We all know that a simple iridectomy, when properly made, rarely gives any trouble, but an iridectomy combined with the extraction of the lens is a very different matter, as the iris is then the main factor in inflammations and often causes the loss of the eye. With the iris healed and no synechiæ the subsequent extraction is nearly always successful. It is my firm belief that if a preliminary iridectomy is made and followed in two months or more by the extraction of the lens our losses would not exceed 1 per cent.

EXTRACTION OF CATARACT IN THE CAPSULE

This is the most difficult and dangerous of all methods. I have done the operation on two patients (both of whom were preachers), but it was not intentional. In both of these a large corneal flap was made for a simple extraction. In one the lens presented immediately after the corneal section, fell out and rolled on the floor, the iris was replaced and the patient recovered without one untoward symptom. The second case only differed from the first in the turning of the lens on its axis and requiring a little assistance in its delivery. In this one, when I saw the unduly gaping wound, I feared a loss of the contents of the eyeball, but not a particle of vitreous presented, the iris was replaced and a beautiful round pupil remained. Both of these men had good vision for years. Here, again, there is a great difference between delivering the lens in its capsule, when from unknown causes it has become loosened from its supports, and our efforts to break up these attachments.

No one should attempt this most difficult operation short of placing himself under a master who has become skilful after thousands of operations. If we cannot do this, we should by all means refer patients who desire this method of operation to these experts. I flatter myself that I have had the usual percentage of success in cataract extraction, as heretofore practiced by the majority of ophthalmologists. But I could not be induced to make this operation short of a thorough training at the hands of those who have operated successfully on thousands of eyes. If the average man in the beginning attempts it he will soon discover that he not only ruins many eyes, but does himself great injury. How many of us would like to have this operation done on ourselves?

When I first commenced eye surgery I made the mistake of opening the speculum too widely and lost vitreous in a few cases by so doing. One cannot be too careful in selecting this instrument. It should be light, well curved, the spring not too strong, and one which can be quickly removed. I commenced with the Graefe right and left, but I have since found the one used by Dr. H. Knapp far better. For years I used the Graefe narrow, straight cataract knife, but fifteen years ago I had special knives made, some with ivory and others with metallic handles (Fig. 1). Knife 1, being convex on the edge, passes across the chamber and makes the corneal section easily and smoothly. It can be kept in order by the operator and retains its edge longer than does the very narrow straight knife, and, lastly, there is no danger of passing into the chamber the wrong way. Knife 2 has a concave edge and rounded back near its point, and I have found it very useful in preliminary iridectomies when no anterior chamber exists; one can then make the section with it just as narrow as he wishes. It is also useful in very severe glaucoma with no anterior chamber, widely dilated pupil and exceedingly narrow ring of iris. It can be worked across the chamber by passing its rounded back against the iris, thereby avoiding transfixing the iris or wounding the lens capsule as we are liable to do with the angular keratome.

416 American Central Life Insurance Building.

ABSTRACT OF DISCUSSION

DR. HILLIARD WOOD, Nashville, Tenn.: My experience with this method of Dr. Savage is confined to 13 cases in which I have operated during the past fall and winter. I shall divide what I have to say about this method of Dr. Savage into (1) the objections and (2) the advantages.

1. Objections: A. It involves an appreciable increase of traumatism over the usual extracapsular extraction; and as a result of this a slight increase in the reaction following the operation. B. It is not suitable in the case of very nervous, or restless patients, because of the increased danger of the loss of vitreous. C. It necessitates, in my hands at least, an iridectomy, which involves a mutilation of the iris and a permanent deformity of the pupil. D. The most serious objection is the production of vitreous opacities. In only 3 of my cases have I been able to examine the vitreous some weeks after operating and in each of these there were floating opacities in the vitreous. These opacities were not dense, and the vision was fairly good; still the opacities were present in each of the 3 cases examined. I understand that such opacities in the front layers of the vitreous are frequently met after the Smith operation, so they would seem to be common to intracapsular methods of extraction.

2. Advantages: A. It enables one to remove unripe cataracts, thus avoiding the tedious delay required for ripening. It is, in my opinion, safer to remove the unripe cataract in its capsule than to resort to artificial ripening. B. Intracapsular extraction removes the possibility of secondary capsular opacities, an advantage which is manifest. The operation is not dangerous or difficult, for in fifty operations done by five operators in our city there was no failure that could be attributed to the method of operating.

DR. ALBERT E. BULSON, JR., Fort Wayne, Ind.: Too many operators with elastic consciences, who are known to have limited opportunities for operative work, glibly talk of their cataract operations by the hundreds and thousands and report such good results that the young and inexperienced operator is inclined to look on the cataract operation as one devoid of much risk and usually attended with good results, if the operation is properly performed. Altogether too many operators are inclined to put the best side out; to report their successes and purposely to neglect to report their failures. This has a tendency to lead the inexperienced operator to draw wrong conclusions and even to accuse himself falsely of error because his own results do not come up to the standard of those who report only their successes.

Loss of vitreous, caused by the squeezing of a speculum by the patient's lids, has led me to abandon the use of the speculum and to use a narrow lid-elevator which absolutely prevents squeezing of the lids. The frequency of prolapse of iris and glaucoma following the simple operation as observed in patients operated on by others as well as in the few operations of the kind which I have done has led me to adopt the combined operation, or extraction following some weeks after a preliminary iridectomy, as being the safest. The manner of incising the capsule has seemingly had but little effect on the necessity of doing a secondary operation in order to secure the best vision, and I do a discission in fully 50 per cent. of my cases. A few extractions of cataract in the capsule, done without intent, and with excellent results, have not led me to think that such an operation, done through intent, should be the operation of choice. My inspection of perhaps twenty-five patients on whom the so-called Major Smith operation had been performed, in whom fully 25 per cent. had suffered loss of vitreous, has also strengthened my belief that extraction in the capsule should not be the operation of choice for the average American operator who has to contend with a class of people far different in temperament and social and physical condition from the class of people on whom Major Smith and others in India operate so successfully. No doubt the fact that Major Smith has operated on thousands has given him an experience and a superior skill which can never be approached by any American operator, who is fortunate if he can number his cases by the hundred over a long series of years. The majority of the cataract patients in America are operated on and will continue to be operated on by the average eye surgeon whose experience is confined to less than twenty-five cases per year. To the average man, therefore, a cataract extraction becomes a grave responsibility and he should not blindly grasp untried methods, or methods, though seemingly successful, that are only so because carried out by men who have had experience which but few can hope to duplicate, even in a small degree. I am not prepared to believe that extraction of the lens in its capsule, as a routine practice, is as safe a procedure, either during the operation or during the healing process, as the cataract operation as ordinarily performed by reasonably skilled operators, and the best results in any case will not be secured unless the operator takes the time and trouble to study thoroughly and to prepare carefully his cases. Emphasis should be placed on the point brought out in Dr. Thompson's paper that not only should the eye of the patient be studied, but the patient's general health and temperament should be carefully investigated before a cataract extraction is attempted, if we are to secure the highest element of success. When and how to operate should be decided with a view not only to present, but to ultimate effects.

DR. J. L. THOMPSON, Indianapolis: After my paper had gone to the printer, Dr. Greene, of Dayton, Ohio, kindly invited me to witness the Smith-Indian operation, on several patients. He also showed me a large number of old soldiers at the National Soldiers' Home, and several private patients, on whom he had made this operation, from one week ago to many months previously. In them I found pupils clear, no threads of capsule, no synechia, and with an acuity of vision equal to 20/xx in many of them. His corneal incision was made with one sweep of the knife, which is shaped like the one which is described in my paper as No. 2, except that his blade is one-fourth of an inch longer, which is necessary when one makes the section entirely in the cornea with but one sweep, if one needs no conjunctival flap.

This is certainly the ideal operation, but should be made only by those who have been thoroughly drilled, and have operated in a country where cataract patients are very numerous and operators few. I have operated on many hundreds of cataracts successfully, but shall not attempt this method. Had I known of it before I sustained a fracture of the neck of the femur some years ago, I would have sought an introduction to Major Smith, visited India, and placed myself under his instruction; but as this is now out of the question, I shall, as I have already commenced doing, send my patients who have immature, nuclear cataract to those who have taken such instruction and have operated in India under the eye of its originator.

Dr. Savage's "cataract-in-capsule extraction by a new means and a new method," to me, is the most complicated and dangerous of all the methods of extraction, except at the hands of the very able originator. It requires two skilled assistants, and a "detacher," which is manipulated inside, instead of outside, the cornea as is the Smith method. But it is comparatively an untried operation. Dr. Savage reports only thirty-eight cases by four operators in eight months. Major Smith reports over 2,000 in six weeks, and 20,000 already made.

"On pigs' eyes," says Dr. Savage, "my operation will not suffer in comparison with the Smith-Indian operation or with any other operation." It is not pigs' eyes, however, and especially dead pigs' eyes, that we are discussing. Dead pigs tell no tales. I have operated on eyes taken from pigs, and sheep, and on many human eyes, very soon after enucleating them; but have derived very little benefit therefrom. The pigs should be live pigs in order that the ultimate result may be followed up. Again must I emphasize the advantages of preliminary iridectomy. It tells us all about the behavior of our patient, and we have no hemorrhage in the anterior chamber to obscure our view. With the iris healed, we can operate with greater confidence of success.

We should urge the advantage to be gained by preliminary iridectomy as strongly as did Moses the teaching of the law.

Dr. D. W. Greene, Dayton, Ohio: I had not intended to say anything on the Smith operation, but Dr. Wood and Dr. Thompson have referred to it, and I would not be true to my obligation to that great man, Colonel Smith, for whom I entertain the most profound respect, if I did not say a word in defense of his operation, because I believe it is more rational and safe than the so-called operation of Dr. Savage, notwithstanding his five modest claims of originality.

Several instruments have been devised by different men at different times embodying all the principles of the so-called detacher. They may vary in size, in shape, but the principle is the same in all of them. It should be the discovery of new underlying principles, not simply modifications of old instruments, which are required to introduce new operations.

I have no practical knowledge of Dr. Savage's operation, but we are making history here. What goes on record without a protest from some one will have the silent endorsement of this Section. I am sorry to be the one to dispute with my friend, Dr. Savage, the claims he makes for his so-called operation, but I do not think that he has a single peg to stand on, so far as his claims go toward having an original operation. He catches the internal rectus muscle, instead of catching the eyeball below. There is not much difference in that from what we all do. He has two assistants, which is an objection. I think that his method of impaling the cataract on the cystotome is objectionable because the capsule is so liable to rupture when pricked. In a paper written in 1866 Lucca of Naples described his method of delivering cataract with a flat probe, which he passed over the anterior surface and underneath the iris to dislocate the lens, and afterward delivered it by pressure. The instrument of Gradenigo, a zonulatome, is intended to cut the zonula and deliver the lens afterward. I bought the instrument in Paris, where it has been made by Luer for ten years past. The instrument of Professor Basso of Genoa has all the curves of Dr. Savage's instrument, even the curve to fit the anterior surface of the lens, which is for all purposes a detachery. He calls it a reclinater. Any person who has had the slightest experience with intracapsular operations knows that the slightest tear in the zonula is all that is necessary. If it is torn at one point the rest easily follows by the pressure in delivering the lens. In other words, it tears itself. In 1907, at the Atlantic City session, Dr. L. Webster Fox called my attention to an instrument which, so far as I am able to see, barring a slight difference in size and lacking a curve in the shank, is the same as Dr. Savage's detacher. It is fair to say that at that time Dr. Fox intended it for a zonulatome. I see another objection to Dr. Savage's so-called operation in that when he has detached the cataract he is only half way through the operation. He still has to deliver it. By the Smith method the whole process is completed by external manipulation and often by one movement. That, I think, is a point worth considering. There are some good points about the operation, but I think that there are many objections to it, and I would have to witness a demonstration of its advantages over the Smith operation before I will be willing to pass an instrument inside of the eye and be at the mercy of the patient even for a few seconds.

Dr. L. Webster Fox, Philadelphia: A cataract operation should always be approached with the feeling that one is about to perform the most delicate operation in surgery and one should try to realize its difficulties and obstacles. All ophthalmic surgeons should welcome a new method by which these obstacles may be lessened. I am not convinced that Dr. Savage has accomplished this with the instrument which he has shown us. In his dextrous hand the dislocation of the lens without loss of vitreous and the expression of the lens in its capsule may be accomplished with ease; but is it a safe method for the average operator to adopt? On mechanical lines, I fail to realize the justification of his claims, but still I am open to conviction. The method is not new and Dr. Savage does not lay claim to any new thought other than the fact that this instrument in his hands robs the "extraction of the lens in its capsule" of many of the difficulties found in Smith's method. Gradenigo and Delgado also devised instruments for the same purpose, and about five years ago I attempted the same method with an instrument modeled after the cystotome of Jaeger, and at a later date Dr. D. W. Greene and myself experimented with various instruments which in shape were exceedingly like Dr. Savage's instrument, the curve in the shank near the hook in the Savage instrument making the difference and giving it its originality. The results being negative, we discontinued the use of the instrument. If Dr. Savage can dislocate a cataractous lens with ease and safety, that is, without disturbing the iris and without loss of vitreous, as his writings and arguments imply, then he has added something to the technic of cataract operations which many of us will welcome. I must still be convinced, however, by demonstration, that this instrument can be used safely in the narrow confines of a corneal or scleral incision with the upper eyelid drawn forward with a Smith hook, thus more or less obstructing the field of operation.

If, after the cataract has been broken away from its suspensory ligament, it can be expressed through this small opening in the cornea then Dr. Savage has acquired a dexterity which the majority of operators have not attained.

Dr. G. C. Savage, Nashville, Tenn.: While Dr. Fox does not remember it, I suggested the corelysis instrument to him in his office on my return trip from the Boston meeting, June, 1906. The May *Bulletin* of Meyerowitz has a picture of my instrument, giving Dr. Fox the credit for its invention. Meyerowitz has taken all the blame on himself. He said that he got the wrong name on the right instrument, or words to that effect.

Dr. Thompson is wrong in speaking lightly of operations on pigs' eyes. Without the use of pigs' eyes and the experience gained with them I would not have attempted my operation on a human eye. It is out of that experience that one learns just how to make the double movement of my detacher.

In answer to Dr. Greene, you can tear loose ligaments with my detacher, and you tear at least 75 or 80 per cent. of it with the first of the two movements. Therefore lighter pressure attends the second movement. My first instrument was made after a design drawn on the edge of my copy of the program at Atlantic City, 1909, and I have in my hand the original drawing. This was made while Greene was discussing the Smith operation. I have it marked 6 mm. for each curve, which is the ideal length of the curve; 7 mm. is too large and 5 mm. is sometimes too small. I have all three and I would advise you to have all three. Use No. 7 on pigs' eyes and 5 and 6 on human eyes. There is no resemblance between my instrument and any of those exhibited by Dr. Greene. Preliminary iridectomy is good; I believe a preliminary iridectomy with preliminary detachment with my instrument would be almost an ideal operation. I have less irritation in the eyes after my operation than I have ever had since I have been operating. Eyes at the fourth day often look as if operated on four weeks before. And I want to tell you further that I turn the eye loose on the third day with only a pad of gauze in front of it. I let the patient wink, move the eye up and down with the other eye at the end of the third day, and I have no hesitation in doing it. I keep both eyes bandaged for two days. Furthermore, I cleanse the eye, but without looking at it, at the end of the first day. I dress the eye twice on the second day and afterward two or three times every day for two weeks. With a small iridectomy you are likely to have prolapse of the iris, unless you use atropin.

Have dead pigs' eyes by all means first. You will disobey my directions if you do not go to the butcher and get an abundance of pigs' eyes, not for the purpose of learning to make the corneal incision, for that you know, but to learn just how to make the double manipulation with the detacher. You will in that way acquire confidence for doing it on the human eye.

As to floating opacities, I have had them in some of my 27 cases, but I am sure they were there before, because the eyes had no irritation whatever about them. I have not been as lucky with all my cases as my confréres. All of their 23 patients had good recovery. I shall give you at some time the history of the cases. One of my cases was lost with a chorioidal hemorrhage. The patient became sick at the stomach a few hours after the operation and vomited, and the chorioidal hemorrhage thus caused ruined the eye. In one other case that white fluffy formation described by Dr. Knapp occurred in an eye free from irritation otherwise. The fluffy appearance disappeared, but the eye was not useful. I need not go into any further detail, but I want to call attention to what Dr. Wood has said, that in not one out of fifty eyes operated on is there one thing to be charged against the new operation itself.

ONE OF THE FUNCTIONS OF THE DUODENUM *

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Last year J. W. Draper Maury[1] published the results of his study on intestinal obstruction based on observations made on 400 lesions, experimentally produced.

His observations led him to suggest the idea that the duodenum (dogs), independent of the secretions thrown into it from the stomach, liver, and pancreas, secretes something which is essential to the life of the animal. Any interference with this hypothetical secretion soon ends in "physiologic death." He also suggests that this protective secretion is furnished by the first 35 cm. of the duodenum and that its presence in the lower portion of the intestine will suffice to prevent death.

Independent of Maury, and while working on an entirely different problem, which, however, involved certain surgical operations on the pancreas, the bile-ducts, and the duodenum, I observed that whenever the operations involved the duct-bearing portion of the duodenum the mortality was very high without any apparent cause. This observation led me to inquire further into the cause of these seemingly unexplainable deaths.

Previous to this observation, and while studying the effects on dogs of long-loop gastro-enterostomies (35-40 cm.) with the pylorus closed, certain definite and characteristic changes were noted which seem to have more or less relation to the question in hand. This relationship may well be discussed here.

With the pylorus permanently closed, a gastro-enterostomy 12 to 15 cm. from the pylorus results in no untoward effects on dogs; but if the gastro-enterostomy be made 35 to 40 cm. from the pylorus conditions are altogether changed. An animal so operated on will soon recover from the immediate effects of the operation. Generally, for two or three days following the operation, there is more or less vomiting, and the stools become light-colored, soft, and fatty. But the most characteristic effect is a gradual loss of flesh. The animal will eat ravenously and drink copiously but to no effect in maintaining its body nutrition. It will continue to lose weight and will die in from five to six weeks in an extreme state of inanition. In fact, animals after closure of the pylorus and a long-loop gastro-enterostomy, behave much the same as they do after total extirpation of the pancreas; that is, the stools become light-colored, soft, and fatty, and the body nutrition cannot be maintained. After the former operation, the urinary findings indicate a condition of gradual starvation, while after the latter a diabetic condition. After the former, the fats are only partially digested and partially absorbed and the digestion of the proteids (meat) is somewhat interfered with; after the latter, the fats are not well digested and only partially absorbed and the carbohydrates are excreted in the urine unused. After a long-loop gastro-enterostomy dogs will live, on an average, about a week longer than after extirpation of the pancreas, but the degree of inanition is correspondingly greater.

As no very satisfactory explanation can be offered for these phenomena, it is permissible to enter the field of speculation. In the first place, as already pointed out, it makes a very decided difference whether the gastric discharge into the intestines is 12 cm. from the closed pylorus or 35 cm.; the former producing no effects, while the latter is followed by the changes described above. At first, one might be tempted to offer as an explanation a probable break in the chain of interactions which takes place in the duodenum, in which the gastric, liver, pancreatic, and duodenal secretions are all more or less interested, and which results in the formation of certain substances, as secretin, trypsin, etc., which either stimulate certain glands, as does secretin, or produce activated substances such as trypsin. Such a break might well be brought about by closure of the pylorus and by establishing a gastro-enterostomy too far from the pylorus to permit the acids from the stomach to act as a biliary stimulant, or to enter into the formation of secretin or other yet unknown activating substances. Such a condition of affairs in the duodenum might account for the digestive derangements, but no more than to close the pylorus, tie off the common bile duct, and drain the gall-bladder, tie off the pancreatic ducts, and to make a short-loop gastro-enterostomy. But even under the conditions imposed by this combination of operations, dogs do not die of starvation; but will live and enjoy a good degree of health. If this be true, then we are forced to assume that the presence of the gastric contents in the upper 12 cm. of the small intestines incites the formation of some substance (secretin or something of a similar nature) which is necessary for the health of the animal, and which is not formed if the gastric discharge is 35 to 40 cm. lower down.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis June, 1910.

1. Maury, J. W. D.: Am. Jour. Med. Sc., 1909, cxxxvii, 725.

To inquire more fully into the merits of such a hypothesis the following series of experiments were undertaken: As a number of operations with certain modifications were made to demonstrate each point, the experiments will be described in terms of the type of operation used.

Type 1.—Operation: The pylorus was closed, the common bile-duct tied off and the gall-bladder drained, and both pancreatic ducts tied. A gastro-enterostomy was made 12 cm. distal to the pylorus. Dogs so operated on lived and enjoyed comparatively good health.

Type 2.—Operation: The pylorus was closed, the duodenum was closed 12 cm. from the pylorus, thus making a duodenal pouch 12 cm. long, and a gastro-enterostomy was made just distal to the duodenal closure. The duodenal pouch was drained to the outside. In some of the operations of this series the common bile-duct was tied off and the gall-bladder drained, and both of the pancreatic ducts tied off. Animals so operated upon lived only from forty-eight to seventy-two hours. It made no difference on the length of life whether the bile and the pancreatic juices were allowed to enter the duodenal loop or were drained directly to the outside. In all of the experiments of this type the dogs recovered promptly from the immediate effects of the operation and to all appearances were in good condition for forty-eight to seventy-two hours following the operation, when they would suddenly drop dead. All cases in which there was the least semblance of beginning sepsis were counted out.

Type 3.—Operation: This was the same as in Type 2, with the addition that the jejunum, just distal to the gastro-enterostomy, was brought up and anastomosed into the duodenal loop so that the loop drained into the upper part of the jejunum. After such an operation the contents of the stomach, after being discharged into the bowel through the gastro-enterostomy opening, would have to pass around by way of the duodeno-jejunal anastomosis and there meet the duodenal secretions. Animals so operated on lived and enjoyed a comparative degree of health. Here also the results were irrespective of the presence of the bile and the pancreatic juice in the duodenum. Six observations were made on this type of operation.

Type 4.—Operation: The pylorus was divided close to the stomach and the stomach opening closed; the duodenum was divided 12 cm. from the pylorus and the distal end closed, and a patch about 1.5 by 3 cm. was taken from the inner side of the duodenum with as little interference with its circulation as possible and transplanted into the bowel a convenient distance from its closed end. The remainder of the duodenum was resected, the common bile-duct tied, the gall-bladder drained and the duodenal portion of the pancreas removed. A gastro-enterostomy was established so as to permit the gastric discharge to come in contact with the transplanted patch of duodenum. This type of operation was quite difficult; but all the subjects (four) in which the patch united to form a part of the intestinal wall lived. The results here obtained were contrary to those obtained by the extirpation of as much as 12 to 15 cm. of the upper part of the small intestines.

Type 5.—Operation: These operations consisted in closing the bowel 12 cm. from the pylorus and of making a gastro-enterostomy, in some of the experiments just distal to the duodenal closure, and in others 35 to 40 cm. from the pylorus. In most of the operations the common bile-duct was tied and the gall-bladder drained, and the pancreatic ducts tied. The purpose here was to permit the duodenal secretion to pass upwards into the stomach and hence be discharged into the intestines through the gastro-enterostomy. The animals lived after these operations, irrespective of the position of the gastro-enterostomy.

It is obvious from the results of these experiments that the total extirpation of the duodenum is incompatible with life longer than about seventy-two hours. A number of investigators,[2] however, while studying the relation of the duodenum to sugar metabolism, claim to have made total extirpations of the duodenum presumably without causing death. Without attempting to discredit their results, it is altogether probable that they did not remove quite enough of the duodenum to obliterate all of its secreting surface. In some instances this will require about 15 cm.

About the only deduction that can be drawn from these experiments is that the duodenum exerts some influence, probably through the agency of a secretion, the removal of which from the body is compatible with life (dogs). So far as we know, Brunner's glands are the only structures located in the duodenum which might be capable of such a secretion, and indeed it is quite tempting to credit them with a specific secretion, the nature of which is yet unknown. In this connection, the crypt of Lieberkühn might play a rôle, but inasmuch as they are found in the jejunum this seems hardly probable. The fact that the fluid collected from a duodenal pouch differs little, or not at all, from the ordinary intestinal juice, in that it is a thin, clear, alkaline fluid, possessed of very feeble digestive powers, and when injected into the circulation in doses of from 10 to 20 c.c. exerts no effects at all, not even on the blood-pressure, might suggest that it acts on some other secretion formed lower down in the bowel, forming an activated substance which is necessary to life. The fact that the animal always lives whenever the duodenal secretion is permitted to drain into the part of the bowel below, by means of an anastomosis of the jejunum into the duodenal pouch, or by a rubber tubing connecting the duodenal pouch with the intestines lower down, or by permitting the duodenal secretion to pass into the stomach and be discharged into the bowel with the stomach contents through a gastro-enterostomy, argues further for some such conclusion.

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ABSTRACT OF DISCUSSION

Dr. Ida E. Hyde, Lawrence, Kan.: I should like to ask Dr. Matthews about the effect of the injection of an extract of the duodenum.

Dr. William Carpenter MacCarty, Rochester, Minn.: I should like to ask Dr. Matthews if the dogs which died showed any dilatation of the stomach or duodenum, and was there an extensive fatty degeneration of the liver?

Dilatation of the stomach and not infrequently the duodenum occurs in a certain number of cases which have undergone operative procedures in the region of the pylorus or bile passages. I have seen definite, apparently paralytic constrictions of the duodenum at autopsy on patients dying after operative measures on the gall-bladder and bile-ducts. If the patients who are suffering from this acute dilatation of the stomach and duodenum are not carefully watched and properly treated by washing out the stomach a large percentage of them die and present an extreme fatty change in the liver. The change in the liver is apparently due to some toxic substance absorbed from the distended bowel. The question arises: Is this substance the secretion of the stomach, duodenum, pancreas or liver itself, or some bacterial product arising in the stagnant contents of the bowel? I should like to know if Dr. Matthews can throw some light on this subject.

Dr. J. F. Hultgen, Chicago: In considering this subject in a general way it seems to me that there are segments in the

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[2] Cimoroni, A.: Lo Sperimentale, 1908, lxii, 523; Tiberti, N.: Lo [illegible] 1908, lxii, 479; Minkowski, O.: Arch. f. exper. Path [illegible] 1908, lviii, 271; Pflüger, E.: Arch. f. d. ges. Physiol. [illegible] 907, cxvii, Nos. 3, 4, 5, 7; 1908, cxix, No. 5; 1908, cxxiii, 233; Lauwens: Arch. f. d. ges. *Physiol.* (Pflüger's), cxx, 623.

gastrointestinal canal a good deal like the segments in the nervous system, as exemplified by the cutaneous distribution of the nerves; so I think that we can speak of metameric zones in the intestine, as well as in the skin. However, Starling and Bayliss have found that the secretin produced in the duodenum acts on the musculature by way of the circulation, and that it is a chemical product. I should like to know whether Dr. Matthews' experience agrees with that or not. There is no question that there is a segmental function in the intestine, the anatomic basis of which we have not been able to ascertain. I should like to ask Dr. Matthews how he stands on the question of gastroenterostomy from the view-point of the physiologist.

Dr. W. G. McCallum, New York: I should like to know whether Dr. Matthews observed any signs of injury to the nervous system in these regions after any of his operations—whether any convulsions followed them.

Dr. J. T. Pilcher, Brooklyn: I should like to ask whether, after the speaker closed off the duodenum and made a fistula from the duodenum externally, and the dogs have become emaciated, he has tried to inject a stimulant such as hydrochloric acid through the fistula in the duodenum, to see whether it would activate a secretion there, and whether there was a secretion further down in the gut and where the secretion was reabsorbed? I have had some experience in experimenting on the pancreas, and have found that a number of the dogs died after ligating the entire blood supply as it comes into the duodenum; and it has seemed to me that this might explain the cause of death, through the lack of direct reabsorption.

Dr. S. A. Matthews, Chicago: In reply to the questions of Dr. Hyde, I can make no definite statements. So far I have not studied the effects of introducing an extract of the duodenum into loops made at different places along the intestines. I have introduced the duodenal secretion into the bowel lower down, but without any very satisfactory results. I am now carrying on experiments such as Dr. Hyde has suggested. I cannot say much about the point brought out by Dr. MacCarty. I have observed several times dilatation of the stomach in dogs, following operations on the duodenum like those described in my paper. In these cases the antrum pylori was found contracted down hard, while the fundus was much dilated. This condition comes on suddenly and the dog will live for only a few hours. Another condition noticed a number of times was intestinal intussusception. This generally took place in the lower third of the small bowel and ended in death in a few hours. The most characteristic symptom was muscular jerkings, simulating a state of tetany.

As stated in the paper, the deleterious effects of a gastroenterostomy on dogs depends on where the gastric contents are discharged into the intestines. If 12-15 cm. from the pylorus, no effect; if 35 cm. from the pylorus, death will invariably follow within six weeks. It may be possible to put animals with long-loop gastroenterostomies on some form of diet that will sustain life under the conditions imposed by such operations. In reply to Dr. McCallum I will say that tetany did not occur in any of the animals used in this work. As already stated, some of the dogs in which intussusception took place did develop symptoms of tetany. In reply to Dr. Pilcher I will say that I have tried the injection of dilute hydrochloric acid into the duodenal loops and also into the part of the bowel lower down, but without any effect. In fact, little or no absorption takes place in the upper 12-15 cm. of the small intestine. In the jejunum absorption does take place, but acids here had no effect on the life and health of the animal.

Carcinoma of the Femur.—A case of metastatic carcinoma of the femur at the site of a fracture, occurring in a woman suffering from bilateral mammary cancer, is reported by Speese (*Proc. Path. Soc., Philadelphia*, February, 1910). The autopsy disclosed a single metastatic nodule in the liver and the carcinoma at the site of fracture, producing softened areas at this point.

MANUAL WORK IN THE TREATMENT OF THE FUNCTIONAL NERVOUS DISEASES *

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The task of treating the functional nervous diseases is so important and so perplexing that you who know the subject best will be most willing to weigh the experience of any one who has honestly investigated in the field. For this reason, although a general practitioner, making no claim to especial neurologic training, I venture to lay before you my conclusions after some years' experience with manual work as a remedy.

THE RATIONALE OF WORK

In order to understand the effectiveness of this simple therapeutic adaptation, we must assume that rational occupation of some kind is an essential of sound and successful living. We must also appreciate that in the functional nervous diseases, we shall not commonly find the patient rationally occupied but either overworking or idle. We shall also usually find that the patient, whether he is idle or overworked, has adjusted his mental and physical habits to his illness, thereby perpetuating the symptoms by making them consistent parts of his daily life. Moreover, it is in my experience almost always true that during periods of idleness or of overwork, the efforts of the patient to overcome his disease result in an accentuation and an accumulation of symptoms through self-consciousness and self-concern.

Manual work, used as a remedy, aims to introduce a new and objective interest, gradually forcing its adoption and increasing its prominence until the mental and physical habits of the patient are grouped about this wholesome center, rather than about the old standard of illness and complexity. It is found experimentally that this plan frequently does represent so radical a change that some at least of the troublesome nervous symptoms which may have become quite dependent on the old order drop out of sight. Manual work as a remedy, if it is appropriately and wisely used, may also, in the functional derangements, go far toward bringing about a state of self-forgetfulness, which if attained has often in itself meant a virtual cure.

SYNTHETIC VERSUS ANALYTIC METHOD

The work cure, while it has the same ends in view as the various other forms of treatment, differs radically from most of these in that its course is synthetic rather than analytic. The trend of the modern treatment of the mental element of the functional nervous diseases is distinctly analytic; the attempt is made to correct the psychoses by explaining away old fears and misunderstandings. The skilled psycho-analyst delves and probes until he has laid bare the secret mental life of the patient, thereby making the mistakes and faults of the past so evident that their correction becomes logical and so inevitable. But there are those who feel that in many cases, remarkable as are the results thus achieved, any analytic study beyond that required for a fairly clear understanding of the case may involve serious dangers, especially in the hands of the inexperienced and the unskillful. If it is true that a practical unconsciousness of self is an essential of normal living, is it not possible that the self-study necessary in these exhaustive analyses may sometimes defeat its own ends by bringing about new and unfortunate states of self-consciousness? The experienced psychotherapeutist should be able to avoid such dangers, but the average man who attempts this kind of treatment must not infrequently find himself involved in difficulties beyond his understanding. To those who have this fear of complications, the work cure will undoubtedly appeal, for it takes the patient as he is, and seeks first to improve the mental and moral condition by substituting for the well known confused and faulty habits of life a simpler and saner order of living.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

THERAPEUTIC VALUE

If we succeed in establishing simple habits of industry within the limitations of the patient and in spite of the continuance of many untoward symptoms, the therapeutic value of such accomplishment is obvious. The neurasthenic patient who after long years of worry and over-doing has made a failure of his vocation and who has had idleness forced on him, may be by this course not only improved physically and mentally in ways that any one may see, but through the action of forces we may never analyze he becomes a man who can at last be reached by argument and who can respond fully and permanently to the stimulus of wise suggestion. I need only say that the patient, except for his natural limitations, has in this course a chance in some measure to substitute success for failure and that he may frequently go back to his old life so schooled in simple straightforward living that the vicious complications do not return in force.

The difference between the analytic and the synthetic courses is, to be sure, frequently one of sequence only, for in the end we shall have accomplished in each case a virtual analysis, and in favorable cases a logical cure. But the difference in sequence is sometimes very important, and has, I feel sure, not infrequently made the difference between order and confusion.

WORK CURE ONLY AN AID

The work cure, at its best, is, of course, but a supplement and background for careful medical diagnosis and treatment. It does not attempt to discredit any of the methods of treatment now in vogue but may go hand in hand with them. In certain cases it may not be appropriate at all, while again it may render all other treatment unnecessary. The principle involved in the work cure is as old as humanity but it will bear frequent emphasis. Its full recognition has, in my own case at least, made the adequate treatment of the functional nervous diseases a greatly simplified problem.

WORK CURE INSTITUTION

About six years ago, I began to consider the possibility of an institution which should make practical application of the principle of industrial therapeutics and which should serve as a laboratory for experimental research in this direction. The development of the plan, although beset with many difficulties, has been most interesting and encouraging.

Perhaps other occupations and other details would have been as well or better, but the choice fell on certain of the ancient crafts such as could be accomplished without haste and without the use and danger of complicated machinery. We have to show for our efforts a considerable industrial plant, well equipped and well situated. For many reasons, the idea has been from the first that the shops be as good as good craftsmen could make them, and that the products should command respect and interest everywhere. This end has been accomplished by making the shops essentially independent of their clinical use. At the present time we have seven workers who may be properly classed as expert craftsmen or designers. Besides these, there are several assistants who will soon assume rank as craftsmen. These people go to the shops every day and work at their various crafts. The patients are introduced from time to time as pupils or apprentices. The craftsmen who do the teaching have had enough experience with illness so that, under direction, they can successfully manage the work of the pupils. With a basis like this, the patient who comes as a pupil has at once the feeling of support afforded by a permanent organization. He has the example of good work always before him, and the advantage of a selling agency where his own products, as well as those of the professional craftsmen, have a chance for the final approval which comes with purchase by disinterested parties. Another advantage of a well organized shop is that it makes it possible to supply the patient with approved designs, tested materials and careful supervision, so that from the start his time and strength are not wasted but are extended in profitable channels. You will readily appreciate that these practical points are important clinically as well as commercially and artistically, for there is nothing so sure to fail as indecision and uncertainty.

The crafts which we have employed are pottery making, hand weaving, wood carving and metal working, with separate shops and separate instructors in each craft.

PRACTICAL SIDE

For three years these shops represented a very considerable expense, but during the past two years they have become nearly self-supporting, through the sale of their excellent products and quite independently of their medical use. I believe that such plants on a smaller or a larger scale may be successfully established anywhere, and I hope that the success of this venture may encourage similar experiments by men who are interested in the subject. I believe it would be a revelation to most of you to know how little argument, how few of the long and trying conversations with the neurasthenic patient are necessary even at the first, when the industrial method is pursued. It is my custom in suitable cases to explain to the patient that his symptoms are at any rate intensified by the kind of life he has been living and that we shall be able to make readjustments and corrections with greater facility when he has reduced his living to the simplest terms—to terms of work and rest—and when he has left behind him the hopeless entanglements of the life he has been living. The patient is very rarely asked to overcome his symptoms directly, a thing his experience assures him is impossible. He is instead given simple directions for work and rest, he is assured and his common sense tells him also, that these first easy things are quite possible and within his capacity, and that further steps may be a matter of reasonable progression.

RESULTS

In a recent article[1] I have given a list of 100 cases of functional nervous diseases treated for the most part synthetically and by the industrial method. Whether my results[2] compare favorably with similar cases treated in other ways I do not know, and it is probably impossible to judge. But I feel that in addition to a fair proportion of the usual clinical successes, the training in simple, uninvolved living has been of the utmost value to the patients.

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[1] Work-Cure: A Report of Five Years' Experience at an Institution Devoted to the Therapeutic Application of Manual Work, The Journal A. M. A., Jan. 1, 1910, p. 12.

SIGNIFICANCE OF THE PRINCIPLE

I cannot refrain from directing your attention for a moment to the possible significance of this industrial principle as applied to a field reaching far beyond the confines of the functional nervous diseases. So many people are suffering in mind and body because of the attempt to accomplish too much, or from idleness which is not necessary, that a therapeutic readjustment would mean preventive and curative medicine on a large and important scale. Nor is achievement along these lines impracticable. Last year, in a stimulating and suggestive article, Dr. Jacoby of New York reviewed the work of two large charitable institutions in Germany[3] where appropriate work is part of the treatment of nervously broken down patients. Here and there in our own country are men awake to the possibilities of handicapped labor, both from the humanitarian and clinical point of view, and because of the really important clinical results to be secured. In the sanatoria, where such a thing has been quite unknown until within the past two or three years, productive industry is rapidly finding a place. A final and most hopeful consideration is this, that the work of the invalid and the handicapped may mercifully be kept within the limitations of the individual capacity and may still be so carefully designed and so well directed that it equals or exceeds in value much of the accepted product of those who are sound and well.

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GYMNASTICS AND MASSAGE IN THE TREATMENT OF NERVOUS DISEASES *

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Perhaps the greatest field for gymnastics and massage is in the domain of nervous diseases, because the problem here is generally one of nutrition and restoration of muscular function. Every specialist in these diseases should, in my opinion, have a practical training in these branches of mechanotherapy, because otherwise he cannot intelligently direct such treatment, and a considerable portion of it should be performed with his own hands. I shall not here discuss the technic further than to call attention to a few points and procedures. Nearly all patients with nervous disease suffer from digestive troubles, constipation and poor nutrition, and in abdominal massage which should be performed by the physician, or an experienced masseur or masseuse in exceptional instances, we have, to my mind, the most valuable single remedial agent for these conditions.

ABDOMINAL AND GENERAL MASSAGE

Abdominal massage should be performed through a single covering; for instance, the undershirt, and should consist of kneading of the colon in circles by the palmar tips of one hand, with the tips of the other making the requisite pressure on the middle knuckles, this to be followed by deep stroking along the course of the colon from the ileocecal valve to the sigmoid; then by a vibration of the entire abdomen with the flat hand applied over the navel region. Lifting of the transverse colon and stomach with vibration in Glenard's syndrome, which I might say in passing is far more common and of far less significance than is usually supposed, is at times of assistance. All other manipulations I believe to be superflous. With daily treatments until the bowels reacquire the habit of moving once in the twenty-four hours, I advise the patient to strengthen the psoas and iliacus and the external abdominal muscles by the exercise of rising from the supine position on the floor to the sitting, without bending the knees.

Whenever general massage is indicated it should be preceded, in my opinion, by passive movements of each limb, because the circulation is thereby so much enhanced that it practically doubles the value of the treatment.

The vibrator invented by Liedbeck, of Stockholm, and so much exploited in this country the past few years, has physiologically the same effect as electricity in exciting muscular contraction and thereby stimulating the circulation and metabolism, and will fail in specific remedial action just as does electricity, if blind faith instead of an exact knowledge of its physiologic effects guide its use. As a sedative to nerve irritability and pain it surpasses the electric current, but it is not nearly so powerful a stimulant to muscles and nerves and thereby to nutrition and function, but it is generally more pleasant to have applied.

The extravagant claims for massage by lay operators and ignorant practitioners, together with the confusing and repelling elaboration of technic by authors on this subject, have resulted in the avoidance of a study and use of this really valuable therapeutic aid. Many manipulations require practice, but really the art is very simple and requires mainly anatomic and physiologic knowledge.

The principles which guide us in prescribing exercise or massage practically resolve themselves into a consideration of physiological action. Under gymnastics and massage we include also all exercise.

PRINCIPLES OF MASSAGE

We may view the human being as a machine, made up of a neuromuscular system whose activities are paramount; which is fed and oiled by the gastro-intestinal and circulatory apparatus; and we can employ the much and frequently misused term "reflex action" and say that its whole function is to convert sensation into motion. Not only is the integrity of the muscular system dependent on the intactness of ganglion cells, as shown by the rapid atrophy following, for instance, poliomyelitis; but if intrauterine disaster results in am-

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[2] The results of work-cure quoted from the above-mentioned article are:

Name of Disease.	Number Treated.	Improved.	Much Improved.	No Relief.
Hysteria	18	15	1	2
Insanity	5	2	2	1
Neurasthenia severe	12	7	4	1
Neurasthenia mild	20	12	8	0
Neuroses	17	8	5	4
Psychoses or fixed idea	8	1	3	4
Unclassified	20	14	4	2
Totals	100	59	27	14

In reference to the insanity cases it should be said that it is not intended to treat at Marblehead any case of insanity. These cases were accepted in the early days of the institution.

[3] Jacoby, G. W.: A Colony Sanatorium for the Nervous and Neurasthenic: A Much-Needed Work of Philanthropy, New York Med. Jour., April 18, 1908.

putation of a limb, the motor cortex and spinal cells governing its activities do not develop, so that it is just as essential for the growth and maintenance of the efficiency of the machine to exercise the muscles as it is to use the neural elements.

The stimulation of mental function by exercises is strikingly shown by the success of Witmer, of Philadelphia, and by the work of the Elmira Reformatory. At the latter place in cases in which lessons could not be learned previously, the mind was virtually reached through the muscular system. I do not think that we appreciate how much the proper condition of the nervous system is dependent on the afferent impulses from the use of the muscles; it may be compared to the influence of the sensory neuron on the motor. The muscles form the furnace of the body and the greater part of our body heat comes from their use; their contractions exert a profound influence on the circulation in arteries, veins and lymph vessels, on respiration, metabolism and excretion, altogether, on nutrition.

VARIETIES OF EXERCISE

Exercise of the muscles should mean more than the habitual use of the legs in walking about in our shops or offices, or the use of our hands in our daily vocations; it should mean some game or movements which calls into play practically all of the muscular apparatus, and at the same time pleasantly occupies the mind. To do the most good it should be a daily affair, even if of short duration, and taken out of doors whenever possible.

The physiologic action of exercise on vital functions makes it the most important single prophylactic against the development of nervous disease. Realizing that neural expenditure is greater than muscular and far more exhausting vitally in all "willed" movements, we have the key to the kind of exercise to prescribe for the individual patient. If they are extremely run down we begin with passive movements and exercises of imitation, progressing to complicated evolutions requiring cerebral initiative later. Sawing wood or any other work calling into play the greater part of the muscular system is valuable exercise. Of gymnastic systems the Swedish is easily first. Its essentials are: active and passive movements of which each joint is capable, with or without resistance on the part of the operator or patient, a proper position of the trunk, and a progressive sequence of exercises. Systems advertised by "strong men" in our newspapers, which consist of joint movements with strongly contracted muscles, develop some muscular strength but are of very little value therapeutically. Machines for exercise from the complicated and expensive Zander's to Sargent's pulley weights are very commendable. Dr. Gulick's Y. M. C. A. system of exercises is commendable. The German turnvereins make more for developing strength, especially of the upper extremities, and teach self-control, but are not so valuable for the rounding out of the individual as general athletics, and are not well adapted to therapeutic ends.

EXERCISE AND MASSAGE

Physiologically speaking, massage differs from exercise in that the latter has cerebral initiative, and with this, trophic impulses, and is both more intense in its general action and also more exhausting. Movements and massage increase the functional activity of the glands, of the skin, and for our purposes, massage has a pronounced anesthetic effect locally and a hypnotic effect generally. On the blood-pressure massage produces an initial rise followed by a fall, obeying in this case the same law that obtains in all forms of stimulation; namely that "reaction is equal to action;" this holds good for exercise.

FATIGUE

Fatigue is a phenomenon of double origin: one form is due to exhaustion of the nerve elements, and the other to a heaping up of work products locally in the muscles. We usually deal only with the first, as it is our consciousness of tire of the nervous apparatus governing motion that we speak of as fatigue; the impulses from the motor centers—the cerebral initiatives—exhaust the highly differentiated nerve structures first, so that a long-distance runner, for instance, after establishing the equilibrium between respiration and circulation which we call getting the "second wind," shows fatigue first from exhaustion of the nervous mechanism—from "willing" the movements—and lastly from tire of the muscles. It is probably safe to say that directing the attention to the execution of movement uses up the pabulum of the ganglion cells, while waste products accumulate, so that the fatigue of the nervous system is essentially the same as that of the muscles. Ranke washed out fatigued muscles with a saline solution, immediately restoring them to vigor, and Zabludowski restored muscles exhausted from faradization by massage. In other words removing the waste products restored working capacity.

There is another element in fatigue which is of peculiar interest to us as neurologists, and that is the mental factor. We see a young man in fine physical condition go into training for some athletic contest, living the "simple life," and then all at once begin to lose weight, perhaps developing a diarrhea or troubled sleep; in short he goes "stale"; his expenditure seems to exceed his income, nutritionally speaking. This can be explained only by the hypothesis of an exhaustion of the neural elements, of the cells governing his higher cerebration; in the last analysis, a fear in the mind. We know that emotion is far more exhausting than physical exercise. The high tension of the runner, waiting for the pistol-shot, exhausts him far more than the muscular effort of running. A neurasthenic is an individual gone stale.

NEURASTHENIA, HYSTERIA, HYPOCHONDRIA

For our purposes we may divide nervous diseases into functional and organic. The great functional diseases are neurasthenia, hysteria and hypochondria, all three of which are essentially mental troubles. Neurasthenia has been considered a fatigue neurosis, the pathology of which has been assumed to be a chronic malnutrition of the nerve cells due to some auto-intoxication or other chemical or physical disturbance. I firmly believe that in a few years we shall all recognize that the determining underlying cause is a disorder of the thought apparatus which will demand mental treatment. Breur and Freud have thrown a flood of light on hysteria and the psychology of automatisms, dreams, and various psychopathic states, and whether we treat a case of hysteria by psycho-analysis or by the reasonable persuasion of DuBois, we all recognize that the essential thing for a cure is to supplant the "sick idea" in the mind of the patient with the healthy one. Hypochondria undoubtedly is a disorder primarily of the mind, and when we can remove the fundamental fear we have started the patient on the high-road to recovery.

The clinical manifestations vary in these three disorders but are largely the result of perverted neuromuscular function, and as it aids in the removal of these, mechanotherapy is of the greatest utility, and besides is of value as part of the mental treatment. The Weir-Mitchell rest-cure has been a favorite measure in the treatment of these diseases, but its main value, as Du Bois says, is to give the physician mental control of his patient. There are patients who will derive benefit from this procedure, but I think that the vast majority will do better with a routine of exercise and massage graduated to the degree of functional impairment.

Gymnastics, games with balls, of which golf is easily first for the adult, horseback riding, walking, dancing, out-of-door work, rowing, fishing, and hunting are the exercises indicated. General massage combined with passive movements of the joints is of great value frequently. Since the nutrition usually is below par, abdominal massage because of its beneficial action on the "kitchen" of the economy has been of the greatest service in my experience, and will remove the chronic constipation of these sufferers if a regular habit is insisted on at the same time.

Insomnia is a symptom which is again a disorder of thought mainly, and removal of this is the important thing, but an important aid is general exercise and the general massage treatment; especially when succeeded by sedative peripheral stroking with the hand or a brush, administered at bedtime.

If we stop to think of it, nearly all our so-called functional nervous troubles are essentially "thought" disorders, and exercise, gymnastics and massage are valuable aids to the mental treatment.

MASSAGE IN ORGANIC TROUBLES

Organic troubles can all derive benefit from movements and massage. In some diseases, such as the spastic spinal disorders, care must be taken to be very gentle in all manipulations or the treatments may easily do as much harm as good. The paralyses following acute anterior poliomyelitis appear at first glance hopeless, but in no other serious impairment of the use of the muscles can such brilliant results be obtained as here. Massage, active and passive movements with and without resistance, and the maintenance of a correct position of the limbs by suitable orthopedic apparatus will restore life and function to withered and apparently dead members. To my mind these results must depend partly on a central stimulation of ganglion cells from the periphery, aided by impulses coming from the cortex. We should stimulate the latter by encouraging the patient to "will" the movements which we execute passively, before any movement is possible by the patient.

Locomotor ataxia demonstrates well what possibilities lie in persistent practice of movements. Frenkel accepts the anesthetic theory of ataxia, and believes that the persistent practice of the exercises bearing his name compensates for the absence of the sensation of the movements; while Goldscheider thinks that through these exercises, the irritability of certain uninjured cord neurons is heightened and in that way act vicariously for the degenerated pathways. These exercises depend on the degree of disability and are not difficult of application; some are to be made in bed, others sitting, standing or walking. Fatigue is to be guarded against, and the movements must be executed with methodic precision. In my own experience the practice of the elementary movements of walking are of the greatest utility to the patient. Massage and movements are of the greatest aid in keeping up nutrition and function in the imperfectly used muscles and joints.

Facial palsy responds kindly to massage in conjunction with galvanism and other measures.

The various forms of occupation neuroses such as writers cramp should be treated by coordinated muscular exercises which do not call into play the same group involved in the cramp, and with these passive movements and massage are to be used.

In the various forms of neuritis, when inflammation has subsided, as indicated by the absence of pain, movements and massage are of the greatest value.

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ABSTRACT OF DISCUSSION

Dr. C. R. Woodson, St. Joseph, Mo.: Employment of a congenial nature, either in or outdoors, is beneficial in the treatment of some nervous troubles, and is not necessarily confined to functional forms. Employment outdoors ordinarily brings better results than indoor employment, from the fact that there is more diversion in it. And outdoor employment brings a little fatigue and necessarily has associated with it some sunshine; fatigue and sunshine have much to do in bringing appetite; and the three combined are Nature's best remedies in producing sleep, and that is the greatest nerve restorer that we have. There are many persons who suffer from nervous diseases who do not obtain relief of the pent-up forces without employment, and it is especially good for an exalted type of mental disease, particularly where it has passed the exhaustive stage or period. Take the commonest cur and tie it up and it becomes vicious as a bulldog; but let it give off the pent-up forces and it becomes so docile that our little children can play with it.

In regard to massage and gymnastics in the treatment of functional nervous diseases, in some respects I agree with the essayists, but I have found that massage is more commonly beneficial with organic disease. Massage is good where there is defective circulation; in the old it is good in the various paralyses; especially is it good in the treatment of poliomyelitis; that is, associated with other things, and gymnastics; or I will even stop short of gymnastics and say, exercise. The fact that you teach the child that suffers from poliomyelitis to try to do the things that it cannot do, is beneficial. Employment in the treatment of those who are congenitally defective, or those who suffer from acquired defectiveness, may be beneficial because of the close relationship of the hand and mental centers. The individual who suffers from nervous troubles of a functional nature, if young, in many instances may be benefited by gymnastics, but they are not appropriate in the old. That massage does help to correct many defective metabolic changes there can be no question, and it should be used; but to lay down a rule of treatment, employment in industrial buildings or outdoors, or massage and gymnastics, is as broad as taking any one of the numerous therapeutic agents and saying it is good. They are all good, but it requires much more than these to effect a cure in most cases. In melancholia in which the individual's mind is not impaired, but dwells on his miserable condition, employment takes the patient's mind off from himself, his appetite increases and sleep comes, all helping to effect a cure.

Dr. John Punton, Kansas City, Mo.: Of interest to the neurologist as well as to the internist is the care and treatment of the neurasthenic, especially the poor neurasthenic, the man or woman without means such as are found in all large cities. I think that Dr. Hall deserves credit in suggesting to us the method which seems to me to practically solve that problem in many cases. When he can institute and organize a method of treatment which after a few years of experimentation has become so practical in all its methods that it becomes self-supporting, it does seem to me that our state authorities can well afford to introduce in the larger cities at least a psychopathic hospital where many of these poor unfortunates can be treated with just such treatment as he suggests, and in a very short time could be made self-supporting, so that the state itself would be at no great expense.

Dr. Hall did not state in his paper whether he used other treatment or not. I presume that he did; but if he did not I cannot quite understand how he can meet all cases. Those having some experience with the treatment of this class of patients which he referred to, know as well perhaps as I, that many of them are wholly exhausted when we first see them; in other words, I believe that there are degrees of exhaustion even in neurasthenia, and many times it depends on the state that you find your patient in as to whether or not this method of treatment would apply at the time that you see him. But I believe that there comes a period in the course of the disease when this method can be put to good use in most cases.

It was especially interesting to know that Dr. Hall recognized the fact that it does not apply to all cases of neurasthenia. I believe he is correct, because I can well understand why some of the neurasthenics could not be satisfied with this method of treatment; but the large majority of them could be greatly benefited by it, and I think that the doctor deserves congratulation on his success.

Dr. Frank R. Fry, St. Louis: I want to commend Dr. Hall's careful methods. They are by all odds the most important contribution to employment therapy that we have had in this country. In the course of time he will receive due credit.

There are many of us—all of us, in fact—who practice neurology, who know that a great deal can be accomplished by work-therapy. In this instance, as in other similar matters of therapy, we do not get at it right. For instance, we are too apt to send the patient to somebody to get massaged, and too often that is about as far as we go with it. We should know the details of massage better. The same is true of exercise. I do not believe that anybody ought to attempt to prescribe exercise for a patient in a case of any importance, unless he is familiar with some of the processes of gaining exercise; unless he knows something technically about what exercise means. For instance, a patient cannot walk because he has bad feet; he must have exercise; another one because the pelvic contents are uncomfortable when she attempts to walk must have other exercise. How are we going to prescribe exercise unless we are fairly familiar with the methods of getting it? This work that Dr. Hall and Dr. Sneve explain in their papers so well is important. Gradually a larger contingent will gain the kind of intimacy that is necessary to make it effectual. We must recognize the rapidly increasing importance of all of these methods, and the necessity of availing ourselves of them if we are going to hold our own in America with neurologists in other countries.

Dr. Philip Zenner, Cincinnati: I wish that Dr. Hall would manage to read a paper of that kind often, and try to interest not only medical men, but the public, in it, so that we possibly might get what Dr. Punton spoke of, some assistance from the public or from the state for these purposes.

There is one thing the doctor mentioned in connection with occupation treatment that is important, and that is, that it often takes away from the patient's mind the effort to control himself, the effort that he makes over himself to overcome his symptoms and to get well. That is often a difficult point with us. Effort means everything to the patient in order to get well; and yet we see many cases in practice in which that effort doubtless is one thing that is keeping him from getting well. It is difficult sometimes for us to decide what to do in this matter, and very often the wisest thing is to tell the patient not to make any effort over himself.

Dr. C. P. Emerson, Clifton Springs, N. Y.: A visit to Dr. Hall's sanatorium interested me so much that I have tried this therapy in the many cases that come under my notice each year. It is true that among a certain number occupation therapy is valuable. For instance, the carpenter-shop is a very good thing for many clergymen and school-teachers, but not among the farmers or day laborers.

I was much interested while connected with the Johns Hopkins Hospital, and working in the social charity work of the city, to find how many society persons were willing to do in the way of occupation therapy, social work among the poor sick. Of course our purpose is to decentralize the person, but nevertheless it seems to us that what is needed first is a good, thorough rest, a good course of purgation, a very, very simple diet, hours and hours out in the sunlight and fresh air, without any physical exercise. Then the occupation therapy is in order. One must study the case. What work will interest and decenter the person? It may be this, that, or the other; art for some, the carpenter-shop for the clergyman and school-teacher, who have spent most of their lives in closed rooms; and the corn field, let me say, after the patient is well rested, is also better for him than a Zander apparatus.

Dr. L. H. Mettler, Chicago: This question of exercise in the treatment of nervous diseases is a much broader one than would appear in the discussion of it in these papers. The last speaker, as well as Dr. Punton, has intimated that which seems to me to be the most significant point in the whole matter, namely, the establishment of the particular character and purpose of the exercise to be employed and the particular disease in which the exercise seems to be called for.

Many perfectly healthy individuals would derive benefit from the discipline and activity involved in the manual training of the workshop, the systematic reading of select literature, or any other means of physical and mental activity. We have all seen plenty of people, apparently in a state of perfect health, to whom gymnastics might be of the greatest advantage. To iterate and reiterate that exercise is a good thing in the treatment of nervous affections, without further specification of the why and wherefore, is a useless waste of time. Indeed it brings to mind the old story of the physician who advised his neurasthenic patient to take more physical exercise, and found his advice to be a bit ridiculous when the patient slyly informed him that he was a letter carrier. The trouble with all such advice and with papers like the second one that we have just listened to, is that they are so beautifully indefinite. The grain of truth discoverable in the midst of all their elaborate phraseology is that walking, bathing, gymnastics and exercise are highly commendable because they somehow improve the circulation. Such an ancient saw, however, does not call for any elaborate expenditure of ink and paper in its exposition. It would be far more to the point, especially before such an audience as this, to give some detailed description of the exercise, the nature of the disease in which the exercise is to be employed, and the therapeutic relationship between the selected exercise and the pathological process in question. As Dr. Fry intimated, such a discussion of gymnastics as we have just listened to, makes one think of the exploitation of certain serums. It amounts to saying, "It is a good thing; give it!"

And again, let me say I am amazed that anyone, like the reader of the second paper, should have the hardihood to rise up before a neurological audience, such as this, and with a wave of the hand dismiss hypochondriasis, neurasthenia, psychasthenia and hysteria as being all more or less alike in representing merely some form of mental trouble. Many neurologists, I know, would be most happy if they could settle so satisfactorily the many difficult problems connected with these distinct and long recognized clinical entities. I am still of the opinion that many of the neurasthenic cases that I see are far from being merely psychasthenic. In such cases I have been able to detect weaknesses and deficiencies that represented something more than merely a psychic disturbance. They may have been denominated functional or incipiently organic, but they certainly occurred in the physiologic rather than in the psychologic sphere. In their treatment absolute rest, exalted nutrition, and the overcoming of intoxication of some sort have effected cures where psychotherapy would have utterly failed. In some of these cases exercise and gymnastics would have proved disastrous. And only after proper eliminative, restful, and highly nutritional treatment, when the patient was well along toward convalescence, would selected exercise, both physical and mental, be recommended. I desire most emphatically to assert that the indiscriminate recommendation of exercise and gymnastics as a grand and useful therapeutic measure, without such recommendation being always and everywhere guided and guarded by a full realization of the nature of the disease process for which the exercise is being commended, is close to the border-line of quackery and is wholly unwarranted in the light of modern neurology. It will be the cause of much damage and will be recognized by every intelligent neurologist as a form of malpractice.

Dr. Theodore Diller, Pittsburg: In the employment of any therapeutic agent we must use discrimination; and I assume that the gentlemen who have advocated work would of course apply these therapeutic measures with discrimination; the whole treatment of functional nervous diseases therefore comes down largely to a matter of personal equation. Some one has said that no one should become nervous until he becomes rich. We know how badly we are handicapped in the treatment of nervous diseases by lack of financial resources. I recall that Lord Salisbury some years ago made a very able address, which I have often recalled, in which he made the statement that the greatest single advantage—surpassing all others—of surplus wealth, was the confidence and resources that it gave us in case of illness. With wealth one can rest without worrying about financial matters; he can procure the best doctors and nurses, and he can travel or take a long vacation.

Now with this generalization I should like to express my warm conviction that there is a therapeutic agent which goes with massage, with exercise and with rest, and which I believe is extremely important in the treatment of functional nervous diseases; I mean having fun. I have long been convinced that all other things being equal, the very best way to get exercise is by a game while having fun. We know that this is true of healthy children; the best way that they get exercise is by a game. Contrast the boy whitewashing the fence with the boy playing baseball. We have golf coming along now, and I should like to see it put in all our parks. I believe in this spirit of fun, and the more you can make exercise a game, the better it will be. Of course these other things have their peculiar and especial application, and I think no one can doubt the value of regular work for many nervous persons. I believe that it is one of the greatest things, not only for patients with functional nervous diseases, but as a promoter and conserver of good health.

Dr. Herbert J. Hall, Marblehead, Mass.: I tried to make it clear that I have not confined myself at all to industrial treatment. I stated in my paper that the work cure at the best is but a supplement and background for careful medical diagnosis and treatment.

Dr. Haldor Sneve, St. Paul: I wish to commend Dr. Hall for the valuable new procedure that he has described to us. But I want to utter a word of warning that we should not treat it as a routine cure-all, and prescribe the latest fad. We are prone to faddism in medicine, and especially in neural troubles I believe; and I want to say that I think the main element of cure in Dr. Hall's method, if it may be called that, is the mental element. I am sure Dr. Hall recognizes that, and I want to utter a word of warning that it is not just because you do the work and occupy yourself that suffices, because if we did not recognize the mental element behind it, the treatment would fail.

Now as to general gymnastics, exercise, massage, etc. I took particular pains in the few observations I made in this paper to say that these are not to be prescribed indiscriminately, and the paper really resolves itself into a consideration of the physiologic action of gymnastics and massage; and to lay down, as one of the last speakers said, definite rules, is impossible. You must use the gray matter in your brains. You must understand the physiologic process involved. We cannot lay down primer rules in things of this kind; and they must remain more or less indefinite.

Reward for Hard Work.—When republics fail to produce men they fail all along the line. To the toiler belong the victories and the power. There is only the space of a man between Lincoln's log cabin and the White House. It is the brain that is cultured, not the brain that is sugar-cured, that gives out the thoughts which men believe in and are willing to trust. The man who is afraid of soiling his hands might as well write his epitaph. The angels of God help the man who is doing his best to get there.—*United Presbyterian.*

NERVOUS AND MENTAL DISTURBANCES OF THE MALE CLIMACTERIC *

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It may be acknowledged at once that the term "male climacteric" is a bit sensational, in view of the fact that it is not specifically recognized by any physiologist. For instance, the "American Text-Book of Physiology" denies that the male presents either a monthly molimen or a climacteric comparable to that in the female. If we confine our attention on the subject of menstruation entirely to the monthly flow, and see in this rhythmic manifestation nothing but an ovarian activity, we need go no further in the discussion of the question of a male climacteric.

But it is a well-established anatomic fact that the early months of embryonic life show no sexual differentiation, and that all of the constituents that subsequently under variation develop into the sexual apparatus of male and female, are indifferently present in either sex, not only up to a certain period of intra-uterine life but in a rudimentary form throughout the entire period of human existence. The statement is a common one that before the age of puberty boys and girls are physically much alike, and it is also a matter of common observation that old men and old women again become alike both mentally and physically through the loss of sexual differences.

MONTHLY RHYTHM IN MEN

We must, however, take a broader view of the monthly periodicity which shows itself so significantly in the female. This matter has been carefully studied, among others, by Campbell.[1] He lays stress on the fact that the monthly rhythm affects females not only before the appearance of the menstrual flow, but in the post-menstrual period for an indefinite time that extends in some instances to the end of life. He believes, although he brings nothing of great significance forward to prove it, that the male is similarly the subject of a twenty-eight to thirty-day rhythm, and his conclusions are that man, like woman, passes through monthly cycles, which begin with the beginning of life and continue until death, and that menstruation as ordinarily understood, that is, the monthly flux, is a reproductive function which has, in the case of the human female become engrafted accidentally, so to speak on this primordial rhythm.[2]

Bearing on the subject of the monthly molimen, a number of studies have been made. A German observer carefully followed the temperature in a number of soldiers living under uniform conditions, and found that, as in the case of women there was a distinct monthly variation or curve. Unfortunately, the name of this observer and the reference have escaped me.

Dr. Clelia D. Mosher[3] as a part of a long study of the arterial pressure conditions in women, with particular reference to the menstrual period, followed the same plan with five men. She found in nine women and five men thus observed for a long period of months, that there was a rhythmic fall of blood-pressure occurring in both at definite intervals. The fall in pressure in women occurs near or at the menstrual period, preceded by a preliminary rise three to five days before the onset of the main fall, and these variations are not peculiar to either sex in the general features of the pressure curve or the periods of high and low tension. Both men and women who have a tendency to digestive disturbance find themselves likely to be more subject to such disturbance at the period of low pressure; or when a slight chronic catarrh exists there may be marked increase of symptoms at that time. With the high pressure, which in women precedes the flow for some days, in both sexes there is a sense of well-being, of superior activity in all directions, and apparently an increase in the resistive powers of the body against fatigue and infections.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[1] Campbell, Harry: Differences in the Nervous Organization of Man and Woman, London, 1891.

[2] Campbell: Differences in the Nervous Organization of Man and Woman, p. 274.

[3] Bull. Johns Hopkins Hosp., April, May, June, 1901.

Dr. W. T. Belfield of Chicago advises me in a personal communication that he has followed the variations in weight and temperature in two healthy young men for a period of three months, and that he found a distinct tendency, which he would not denominate a wave, toward a rise of weight but not of temperature, about every two weeks, with a phosphaturia analogous to that presented by women just before menstruation.

Sanctorius (1728), the great Italian clinician, was perhaps the first to suggest a monthly cycle in the organism of men. He based the suggestion on a careful study of the weight of the body with reference to the amount of excretions, and found that a monthly increase to the amount of one or two pounds occurred in men, followed by a critical discharge of urine, the crisis being preceded by feelings of heaviness and lassitude.

So, too, Stevenson has insisted that menstruation is not confined to the female sex, and that there also exists in men a cyclic wave which is really a manifestation of a general law of vital energy.

A number of observers have attempted to establish a cycle of sexual impulses in men, but for obvious reasons, though their findings are somewhat suggestive of such being the case, they are not sufficiently definite to justify any generalizations.

Julius Nelson, Stanley Hall, Perry-Coste and other observers have been able to note a monthly rhythm in the frequency of nocturnal emissions in men living a chaste life.

A number of morbid conditions also seem to present such a monthly regularity as seems to be significant in this connection. I have the histories of two carefully observed male cases of epilepsy, extending over five and seven years, respectively, in which the attacks have occurred with as much regularity as the menstrual function in women, at periods of from twenty-eight to thirty-four days. This rhythm in each instance was occasionally broken by the use of large doses of bromid at the time of the expected attack, but again resumed its regularity on the withdrawal of the bromids. In both these cases the onset of the disease was at the age of puberty. Neither have attained an age that would present any modification due to involutional processes.

I have observed a case of migraine in which the attacks in a male varied from twenty-four to thirty-six days, over a period of several years; and the patient asserted that these attacks had been of similar periodicity for a number of years before he came under my notice. Incidentally, I have repeatedly seen migraine in the male subside between 55 and 65 years, just as it does in women at the climacteric, and typical periodical drinking in men usually follows the same rule.

Campbell[4] reports an interesting case of a man 62 years of age, who for twenty or thirty years had suffered a monthly hemorrhoidal flux; so regularly did it occur that he spoke of these periods as his "monthlies." Far from feeling any evil effects from the bleeding, he invariably experienced great benefit, the improvement expressing itself in improved vigor and more perfect bodily health. At the age of 60 the flux ceased to appear regularly and then he began to experience a long train of minor nervous symptoms, such as appear in the climacteric in women. He suffered from constant flushes of heat, during which he felt "groggy." These heats ascended and were attended by palpitation. He also suffered from marked tenderness of the scalp, and became highly emotional and almost hysterical. All these symptoms were greatly relieved by the sudden recurrence of a profuse hemorrhage. After this occasion he did not lose any blood for two or three months, and then it reappeared irregularly for eighteen months. All this time he was liable to the same nervous symptoms, but finally the flux resumed its former regularity, after which time he considered himself in perfect health.

Somewhat similar cases are also to be encountered here and there in the literature, as, for instance, one recited by Brierre de Boismont.[5]

Gall noted in a man a hemorrhoidal flux of a periodical character similar to the case already detailed.

Chopart cites a curious case of a soldier who had a monthly discharge of bloody urine; and a similar case is reported by Rayer.

Havelock Ellis,[6] who has given this subject as much attention as anyone, reports with great detail a case of cardiac asthma, the attacks of which recurred at about thirty-day intervals for many years.

Sir Henry Halford[7] as long ago as 1831, described a condition which he termed the "climacteric disease" occurring in men between 50 and 75 years of age, but did not make a close analogy between this condition and the climacteric of women.

The involutional period of male life has frequently been referred to as a climacterium in a rather loose manner, the writers not apparently intending to imply that there was a monthly variation in the male. For instance, Freud[8] says very definitely: "There are men who show a climacterium like women, and merge into an anxiety neurosis at the time when their potency diminishes."

MANIFESTATIONS OF MALE CLIMACTERIC

If, as seems not altogether improbable, the human male shows a monthly periodicity, there can be little surprise in observing manifestations of a similar character at the involutional or climacteric period in both sexes. Since my attention has been directed along this line—that is, for the past ten years—I have accumulated a large number of observations on which I purpose to outline certain generalizations, without burdening this communication with the details of case histories.

Involutional insanity in men, as in women, is of tolerably frequent occurrence and presents practically no distinctions and no regular form of psychosis. I find that in both sexes there is almost invariably a well defined tendency to mental instability, frequently well-marked family histories of insanity or of the major neuroses, and often former attacks of mental alienation in the patient himself. The particular interest of my subject does not pertain to the insanities, but to minor psychoses and neurotic disturbances. These, one and all, however, have a mental background.

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[4] Campbell, *Harry*: Flushing and Morbid Blushing, London, 1890, p. 110.

[5] De la Menstruation, p. 136.

[6] Ellis, *Havelock*: Studies in the Psychology of Sex, F. A. Davis Company, 1900.

[7] Essays and Orations, London, 1831.

[8] Selected Papers on Hysteria, p. 143

Aside from the insanities above alluded to, any considerable degree of elation, delirium, or maniacal manifestations finds no mention in my case records. Almost invariably, there are expressions showing an anxious tone of mental feeling. This varies from the actual anxiety neurosis of the Germans, with all the obsessions and phobias that mark the psychasthenic, to the rather simple anxieties of the neurasthenic and the hypochondriac. Naturally this mental attitude is attended by more or less depression, and if the patients have had an attack of insanity earlier in life or come of a tainted family, fears of mental overthrow bulk largely in their list of worries. I have been struck with the frequency of various adolescent forms of mental disturbance among these early patients.

The mental features of worry and anxiety tend markedly to fluctuate, but I have been unable to notice that the fluctuations show any monthly periodicity. Daily alternation is much more marked than in similar neuroses earlier in life, and very commonly such patients will be tolerably bright and free from their worries and anxieties in the latter part of the day, the early waking and morning hours being those of decided depression.

On the physical side almost invariably there is a loss of weight and the patients present a higher arterial tension than has seemed to me to be altogether attributable to their age or general physical condition. As they tend to improve the arterial tension subsides to some degree. Gastro-intestinal activities are reduced. Indigestions and all sorts of intestinal complaints are common. These patients show easy fatigue and some general neurasthenia.

Almost invariably the patients who have been subject to periodical neuroses, such as migraine or periodical drinking, lose these attributes. As a rule the men shun alcohol, are willing to give up tobacco, and readily modify their habits in any direction advised. I have notes of one or two men who had histories of periodical drinking, who became for a period of several years steady drinkers; that is, they began to take two or three drinks a day, a practice which had been foreign to their entire life-history and was finally followed by complete abstinence. In another patient steady excessive drinking developed.

Headaches, oppressed feelings in the chest, sudden sensations of an alarming nature, especially vertigos, are commonly described. Cold extremities and heat in the head are generally mentioned.

These conditions run a variable course of from eighteen months to three years, after which the patients regain a fair degree of their former mental and physical characteristics and go along comfortably, with naturally some reduction of their former capacities.

MANAGEMENT

The management of these patients is a task requiring extreme tact, great patience, and a variety of expedients. For some, change and travel answer fairly well, although they are not happy in it. A reduction of the daily work is almost imperative in every case. General measures which serve to ease and improve the general circulation and build up the physical health, answer a good purpose. Vasodilators have seemed to me to be of essential value. Any tendency to sclerotic processes in arteries, liver or kidneys—conditions, of course, commonly found at the age presented by patients of this class—have their own indications. On the whole, the development of any of these nervous and mental manifestations in men between the ages of 50 and 65 is not of itself of serious import.

I have felt that the recognition of these climacteric features would more frequently enable physicians to take a hopeful view, and thereby maintain a more encouraging attitude towards this class of sufferers.

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THE PREVENTION OF BLINDNESS *

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There has never been a time when, as now, the world has given such careful thought and scientific study to the causes of disease and the most effective measures for its prevention. Within the last decade public health has assumed a new importance. As medical knowledge has become more exact, the needlessness and the costliness of disease have become more evident and the public has joined forces with the advance guard of the medical profession in the development of what is practically a new science—preventive medicine.

In the evolution of this work, certain facts have taken on new relationships and have stood out in greater prominence than ever before. We have come to realize that the social fabric of our modern life is woven together by the forces that make for the physical well-being of the people. We now know that disease is neither an accident nor a mysterious incident in a vast number of cases, but that it is the logical resultant of conditions which have preceded it, and an essential factor in maladjustments which must follow it. If, then, we so govern existent conditions that the level of human efficiency may be raised, or at least so interpose that conditions may not obtain whereby it shall be lowered, we thereby advance all human progress to a degree which we can never estimate. The inspiration, for example, that has come from the study of so universal a malady as tuberculosis has led its investigators far afield in inquiries concerning collateral relationships, social conditions and remote results. It is found to be a resultant of poverty and related to crime, and wider knowledge concerning the conditions under which it develops has modified the lives of thousands who may never have been threatened by it.

In like manner, a study of destructive diseases of the eye, or even those impairing its usefulness, will be found to have economic and social bearings as well as those of a strictly medical character.

Ophthalmology has been among the later of the branches of medicine to institute any broad inquiries in relation to preventive medicine—perhaps because, while ophthalmology is one of the more distinctive departments of medicine it is at the same time one of the most technical, and, by common consent, diseases of the eye are supposed to be relegated, both by the lay public and by the general practitioner, to those whose studies and experience peculiarly fit them for this work.

If it can be shown, then, that blindness to any large extent exists which under more favorable conditions should have been avoided, it manifestly becomes the

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duty of ophthalmologists to initiate such measures as may be necessary for the public safety, because others neither know that eyes are lost which should be saved, nor are they informed as to what should be done to prevent such disasters.

Recognizing these important points, it is the purpose of this paper, not to suggest detailed measures for the prevention of blindness, but rather to emphasize the fact that a problem exists and that, as yet, no public movement has been organized for the purpose of solving it. The whole subject is new and as yet is merely in its inception, but with the cooperation of the ophthalmologists of the United States it gives promise of limiting human suffering and increasing human happiness to an immeasurably greater degree than could be obtained by our combined efforts as physicians and surgeons, directed to the relief of conditions which have already obtained; just as the prevention of disease is always and from every standpoint better than is its most successful cure.

When we speak of blindness, moreover, it should be borne in mind that the preventive measures which may be suggested are equally applicable in a vast number of cases in which total loss of sight has not occurred, but in which one or both of the eyes have suffered damage to such a degree as to lower the visual efficiency, and these are as the sands on the seashore. The lack of definite official action on this medico-social subject is shown at the very beginning in the absence of any authoritative definition as to the meaning of blindness.

The instructions given to the enumerators of the Bureau of the Census for securing data for the twelfth census of the United States, that for the year 1900, required the enumerator to ask "whether all persons enumerated have good sight and good hearing, i. e., can see and hear well." "And should it appear that the sight is so seriously impaired that it is impossible for the person to read a book, even with the aid of glasses," the enumerator was directed to note such person as "blind," even though he or she may have some slight power of sight. In most schools for the blind, a candidate for admission is considered blind who does not possess sufficient sight to be educated in schools for the seeing.

The Massachusetts Bureau of Statistics of Labor provided the following definition of blindness for the guidance of enumerators in taking the decennial census, and this was also adopted by the New York State Commission for the Blind in 1906. It included persons who "with the aid of glasses are yet unable to distinguish form or color, to count the fingers on the hand at a distance of one foot, or to read writing or ordinary print."

It would at once be evident that all these definitions lack exactitude because of the elasticity of the term blindness itself. The fairest and most just and discriminating definition of blindness is that of Dr. Lewis Stricker, given in the article read before the Ohio State Medical Association on blindness in Hamilton County.

He proposes a standard defining blindness of three degrees. The first is total or absolute blindness in which the light sense is completely abolished. The second, which might be termed relative blindness, is that in which the vision with either eye, with proper corrective glasses adjusted, is so low that fingers can no longer be counted at one meter or three feet, but movements of the hand or moving objects may still be discerned. The third, practical blindness, is that in which moving objects may still be discerned at three meters, or nine feet, but in which the field of vision has become so impaired (either by contraction of the field down to five degrees or less, or in which central vision is entirely abolished and a small area of eccentric vision remains, or in which disseminated scotomata exist, or in which is found only a sector of eccentric vision) that no useful vision remains and the individual gets about with great difficulty. Fourth, only those are to be considered as blind who are hopelessly and incurably so. As a basis for any statistical data that may be secured, it would seem necessary that this or some other equally precise definition should be officially adopted so that all records taken may have at least a relative degree of precision.

INACCURACY OF THE FEDERAL AND STATE CENSUS REPORTS

The absence of any accurate definition of blindness has been followed as a natural consequence by the greatest inaccuracy as to its extent as indicated by our national and state census reports.

Many individuals with uncomplicated cataracts have been placed among the ranks of the blind, to be practically but not technically taken from this list after the eye or eyes had been successfully operated on. Many persons were recorded as blind who had one defective eye or who had had one eye removed. The enumerators who took the census for the New York State Commission for the Blind found that many persons had been recorded as blind who were not blind at all, having some weakness of the eyes simply, while others back in the country from the trunk railroad lines who were actually blind were, in many instances, entirely overlooked.

It is evident that for scientific purposes the only records that are of any value are those which are made by trained and experienced ophthalmologists, but these are conspicuous by their absence where we would reasonably expect to find them.

ABSENCE OF ACCURATE DATA CONCERNING BLINDNESS

The lack of accurate study on this subject is evinced in the almost total absence of any large amount of reliable data and in the inexactness of those which are obtainable.

There are four sources to which we might look for statistics concerning the relative incidence of blindness and the causes which produce it: the federal and state census reports, the records of public institutions having ophthalmologic departments or being devoted to the diseases of the eye, the reports of ophthalmic examiners of schools for the blind, and the private records of ophthalmologists.

The records of most of our public institutions as a basis for the study of statistical data concerning the amount of blindness which exists seem to be absolutely worthless. The annual reports of ten of the largest institutions in the United States for the treatment of diseases of the eye were carefully examined and none of them appear to contain other than the most superficial notes on the character of the cases presented. It is of very little value to the public or to any one else to know that there were so many cases treated involving this or that tissue of the eye and that the cost of maintaining the institution was so much. Yet in none of them, except possibly the Eye, Ear, Nose and Throat Hospital of New Orleans, was anything more than this attempted.

The possibility of utilizing the vast amount of material which passes annually under the observation of the skilled men connected with these various institutions seems to be neglected. A careful study of each case, or group of cases, with the method of treatment employed, together with the average number of days which the patients were under treatment and the final results obtained would be of great value and would add but little to the clerical labor involved.

For example, it interests no one to any large extent to know that three hundred and fifty cataracts were extracted at an institution during the year. But when the operation in a certain proportion of these cases has failed to give good results it interests every student of ophthalmology to know why. It is important to all of us to know whether higher visual acuity with greater or less corneal astigmatism is obtained by a section made in one way or in another, and when blindness results it adds a scientific value to the record if it is shown what conditions supervened to produce this disaster.

When an iridectomy or sclerotomy is made for glaucoma we should all like to know what the vision was before the operation and what it was six months or a year later. When vision for any reason has been reduced, while the patient was under treatment for corneal ulcer or other cause, it is a matter of definite value to know how long the patient was under treatment, what medical measures were employed and exactly what results followed.

If such records were made in all public institutions, two beneficial results would follow: First, the aggregation of a number of facts from which definite, helpful conclusions might be drawn as to the relative value of different methods of treatment. Second, the greater care which we would all use if we knew that our work was open to public criticism.

A third available source of study as to the causes of blindness should be our schools and institutions for the blind, but, except in very few cases, the causes of blindness are so unscientifically given as to make the record of doubtful value.

In several important schools for the blind no ophthalmic examiner is employed and no records whatever are made as to the causes of blindness. In a statement from one of the most important schools in the United States I read among the causes of blindness, in one case "meningitis," which probably means "optic atrophy," but it does not say so. The next is exophthalmic goiter, without any statement as to the condition of the eyes producing blindness. A third is "accident," another "disease of the blood," but this is starred as not the oculist's statement, which by inference would mean that the others were. Still another is "glaucoma," which is said to have occurred "in a child of 2 years of age," another "measles," another "congenital," simply, still another is "consanguinity," with an interrogation point, whatever that may mean. "Neuritis, whooping cough, uremia," etc., are also other assigned causes. Certainly none of these were obtained as the result of an accurate physical examination made by a competent examiner, and, for scientific purposes, they have *practically* no value whatever.

In some cases, however, the most exact and detailed pathologic statements are given and the record obtained is of corresponding value.

There should no doubt be a uniform record blank in every institution for the blind, on which the condition of each eye should be accurately specified, the age at which blindness occurred and the cause, so far as can be ascertained, on which the loss of sight was dependent. If this were carefully noted in all institutions, it would add another source of exact and practical, available knowledge.

But the most useful and easily accessible source of data of this character would be our own daily records. It would be a simple matter if each man had on his desk a printed blank on which an exact record could be made, taken from his case book, of the age and sex of the patient, the eye involved, the degree of blindness and, when ascertainable, the cause of the loss of sight. On this could be briefly included those cases presenting during the morning's work which came under the accepted definition of blindness, with an opinion as to whether or not it might have been prevented.

It is astonishing how relatively frequent are the cases in which but one eye is blind. But they probably would not number more than a dozen during the course of the week, and the accumulated observations made by a number of carefully trained men, while taking but a minimum of effort, would when aggregated give exceedingly valuable results. Such data must be secured before we shall have any absolutely dependable basis on which to establish our future work in prevention.

THE VALUE OF SOCIAL SERVICE

The prevention of blindness from the medical viewpoint may be interpreted in any terms which make for better care of the eyes. Most of our clinics are too large for the limited time in which a long line of people must be seen, and there is very little left for the consideration of the individual. We lose the human element, and this frequently is the key of the whole situation.

Here the great value of social service supplemental to and in harmony with the medical or surgical work is especially evident. In my service in the Charity Eye, Ear and Throat Hospital of Erie County a poor woman with several children presented herself with corneal ulcer. Before applying the conventional treatment the woman's appearance constrained me to ask if she had enough to eat. She reluctantly admitted that she was starving. A note to the Charity Organization Society verified her story, but developed the additional fact that a well-to-do relation would gladly aid her when he learned of her condition. It was necessary only to bring the two together. Treatment under such conditions would have been mockery until her immediate necessities had been supplied, and without proper nutrition a cure would have been impossible.

On another occasion a 16-year-old girl appeared with functional amblyopia in one eye. She had been visiting the clinic for some weeks before her home conditions were investigated. This poor child was found living alone with a decrepit, insane mother. When the mother had been put in a hospital for the insane and the child placed under proper influences, the hysteria which was possibly prodromal to more serious nervous disturbances spontaneously disappeared. The home surroundings, the social life, the conditions under which the eyes are used are frequently such as to make successful treatment of serious trouble impossible. Diseases of the eyes due to malnutrition from improper feeding are more commonly the result of ignorance than of poverty, and helpful advice as to the adoption of better methods is usually not only welcomed, but gladly followed.

It is often impossible for the physician, even if he had the time, to get behind the barrier of timidity and apprehension within which the poor patient is barricaded; and yet such knowledge is often essential to effect relief which can be obtained only by the intelligent and sympathetic intervention of the social visitor, who by supplementing and explaining the advice of the surgeon of the urgent necessity of an iridectomy for glaucoma or an enucleation for sympathetic ophthalmia may save eyes that through neglect would otherwise be lost. By the adoption of such measures as these the frequency of visits on the part of the patient to the clinic will be greatly reduced and time will be allowed for other and more scientifically profitable cases.

PREVENTABLE INDUSTRIAL ACCIDENTS

Another cause of unnecessary blindness is found in the preventable industrial accidents. Johnston,[1] in an admirable article on this subject, divides these injuries into four classes:

1. Those occurring as the result of handling high explosives in mining and railroad construction.
2. Those occurring from the bursting of locomotive oil and water gauges.
3. Those occurring in mills, foundries, machine shops and the building trades.
4. Those occurring in the agricultural pursuits.

In precaution he advocates: (1) Government inspection of manufacture of all explosives; (2) licensing of "foundermen"; (3) protection of water and oil gauges by wire or plateglass screens; (4) the placing of guards on all emery wheels, lathes, etc.; (5) education of the laity as to the seriousness of even slight injuries when infected.

To this may be added, as Ayers of Cincinnati has shown, the danger of poor tools, which readily chip and which constitute another prevalent source of unnecessary injuries. The obligatory use of properly tempered steel hammers would materially limit the number of accidents of this character.

THE PREVENTION OF HEREDITARY BLINDNESS

Just how far it is practicable or possible for the state to exercise control in eugenics is still a moot question, but as to the urgent necessity of employing every moral agency in preventing the marriage of those whose progeny is sure to be defective there can be no question whatever.

In the New York State School for the Blind is a child who represents the fourth generation of blind individuals. These, with a collateral branch, number eighteen people who have inherited blindness from a great-grandmother, and most of these have been charges on the state. The least unhappy result of this unfortunate inheritance has been the cost to the state of thousands of dollars. The real tragedy is the bringing into the world of a race of weak-minded degenerates, whose propagation may be continued endlessly.

This is a public calamity. It is a duty resting on all of us that measures be taken whereby this frightful state of affairs be brought to an end. It would be economy and wisdom on the part of the state to make some provision for the permanent institutional care of such unfortunates, separating the sexes and preventing in every way possible the further increase of their kind. This is, indeed, but one phase of a large subject, but it is one demanding consideration and some form of effective action.

BETTER TRAINING NEEDED IN OPHTHALMOLOGY

It is an unfortunate fact, but one which must be admitted, that many eyes are lost through the inadequate training of those who assume to treat them. Many operations result badly, either because they were ill-advised or clumsily performed. For this we are ourselves largely to blame. We have no standard by which may be determined the qualifications of a physician who undertakes such expert and delicate work and work requiring such precise and technical knowledge as ophthalmology.

Recent graduates, after a few months of desultory observation in a large clinic and with inadequate preliminary training in physics, pathology or surgery, with the audacity of ignorance, attempt the most difficult operations on the eye, thereby verifying the classic though monstrous dictum of Baer, that "it takes a hatful of eyes to educate an oculist."

Modern aseptic methods have made the domain of surgery so tempting that it is not alone on the eye that operative sins are committed. Our most capable surgeons everywhere are recognizing the great dangers that are resulting from the bad work of unqualified men. It is a grave question whether the time has not come when our profession should consider the desirability of providing special degrees in surgery and ophthalmology, as has for so many years been done in Great Britain. An adequate curriculum and scholastic teaching, with a final degree in ophthalmology, given only to those of proved ability, as is now done at Oxford, were they provided in our great medical centers, where clinical material is so abundant and where the ablest teachers are to be found, would make it unnecessary for the ambitious student to cross the ocean in order to secure the best instruction in ophthalmology.

It is not the purpose of this paper to consider in detail the various preventable conditions which result in blindness, and no attempt has been made to deal with causes which would occur immediately to all who are familiar with the subject. Nothing has been said of Independence Day accidents, blindness due to wood alcohol and other toxic substances, of ophthalmia neonatorum and other forms of infectious diseases of the eyes, because all these have been more or less generally considered and it remains only to devise methods by which prevention may be made generally effective. But a vitally important subject, which has not received adequate attention, is the protection of the eyes of school children by securing for them suitably lighted and ventilated study rooms and properly printed books. It is in the school room that the foundation is laid in a large number of cases for the development of diseases which result in limitation of vision, if not in actual blindness.

It would seem that much might be accomplished by having a special committee from this Section representing the American Medical Association to consider all these subjects, to confer, if deemed wise, with a like committee chosen by the National Educational Association, so that these two great bodies, with possibly the cooperation of the various boards of public health, might together work out a solution of these problems for each of the states.

While many architects are familiar with proper forms of school construction and members of the association have worked out problems in lighting of rooms, relative size and character of lights, etc., there are no uniform regulations concerning the adoption of fundamental principles of hygiene and buildings continue to be erected and school books continue to be published so glaringly out of harmony with scientific methods that they ought not to be tolerated in progressive communities. Organized effort on the part of the medical profession for the purpose of obtaining better protection of the eye, if in conjunction with intelligent and discriminating social work, would do much in limiting the disasters which are due to controllable causes.

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[1] Ophthalmology, July, 1909.

There is no more splendid work in which we could engage than in preventing conditions which our best skill is so often unable to mend. Such work would add dignity and importance to our branch of the profession by making it an essential element in the general preventive movement which is now everywhere occupying public attention. It is especially important just at present when those engaged in large philanthropic movements have given us the encouragement of their support. The directors of the Russell Sage Foundation in recognition of the practical and effective means which had been adopted in almost all of the states looking toward the prevention of ophthalmia neonatorum, felt that the time had come when a greater work for the prevention of blindness, due to other causes, might wisely be undertaken. Supplementing their former generous appropriations which provided an office and staff for the committee on the prevention of blindness of the New York Association for the Blind, and which has cooperated so effectively with the Committee on Ophthalmia Neonatorum of this association, a further appropriation was recently made, making possible the employment of a trained man who would be prepared to assist the medical and sanitary committees in the various states in carrying out a plan of work similar to that which has been so effectively inaugurated in Massachusetts, New York and Ohio.

To make this successful, however, the hearty approval and cordial support of the medical profession is imperative. With this the possibility of far-reaching and effective results through these combined agencies is so great that the movement which has been started bids fair to be second in importance only to that for the prevention of tuberculosis. It is earnestly to be desired that action may be taken by the Section on Ophthalmology at this meeting in support of this movement thus assuring those who are doing so much to advance this cause of the approval of and cooperation of the members of the Association throughout the country in this important work.

454 Franklin Street.

ABSTRACT OF DISCUSSION

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: I think this subject demands further attention on the part of this Section, and it occurs to me that one of the ways of getting at the matter is to enlarge the sphere of usefulness of the Committee on the Prevention of Ophthalmia Neonatorum. It seems to me that this Section ought to further the study of blindness which has been inaugurated by Dr. Lewis, and I think he has prepared some resolutions touching on the subject.

The question of preventable blindness from trachoma is a very important one. To all intents and purposes the government seems to be rather rigid in the inspection of immigrants coming to this country, and yet to my personal knowledge cases of trachoma do get in, owing, of course, to laxity of inspection. Blindness from industrial accidents is also very important. Much of the blindness that occurs as the result of industrial accidents may be prevented by proper education of labor organizations as well as of employers of labor. I hope, therefore, that the scope of this committee will be enlarged and that this Section will stand sponsor for the work of the committee.

Dr. Lucien Howe, Buffalo: I think the same thing was in the minds of most of us, and it would be advisable to formulate a plan for an American association for the prevention of blindness.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind.: To avoid multiplicity of committees why not enlarge the scope of the present committee? It seems to me the committee we have on the prevention of blindness from ophthalmia neonatorum is sufficient, but if necessary let that committee be enlarged, with the added duties mentioned by Dr. Lewis.

Dr. J. A. Donovan, Butte, Mont.: About eleven people a day are killed by the railroads in the United States, to say nothing of the other industrial accidents, which are becoming numerous, so that I believe we should have a separate committee to consider this, and to educate the people in their prevention. Several years ago I read a paper on injuries from blasts in our section where we produce one-third of the copper mined in this country. Injuries from blasts have been reduced two-thirds through education of the people. These injuries and those from railroads and machine shops come mostly from new men. The employers are anxious to avoid these accidents, as claims are made amounting to hundreds of thousands of dollars every year. Some intelligent committee from this society that would study the prevention of blindness in the industries would have a subject broad enough to require its entire attention.

Miss C. C. Van Blarcom, Secretary New York Committee on Prevention of Blindness, New York: It seems rather pointless for me to address a body of ophthalmologists on the subject of the prevention of blindness, for I am only a lay-worker and view the problem from the layman's standpoint. However, since the courtesy of the floor has been extended to me, I am glad to speak on one or two questions which have already been touched on and which are, perhaps, of more importance than the medical profession in the abstract appreciates.

The question of the prevention of blindness is not a single definite piece of work, but is a complex and intricate undertaking, involving many problems, both medical and social. With one accord we look to the medical profession to initiate and guide the movement for the prevention of blindness, but we feel that the ultimate results will only be accomplished through harmonizing the many elements which bear on the solution of this problem. It is a social question, requiring education, legislation and cooperation for its solution, and so it seems to me that the work of preventing unnecessary blindness cannot be carried on by the medical profession alone.

That branch of the great work devoted to the prevention of blindness due to ophthalmia neonatorum is only one phase of the work, and I, and many others also, feel that we are weakening our cause by limiting it too closely to a medical campaign. Ophthalmia neonatorum and its resulting blindness must be prevented, but there are so many other causes of preventable blindness that the work ramifies indefinitely and we find ourselves overlapping and dovetailing with so many other workers that it is important that there be a coordination of those forces referred to in Dr. Lewis' paper, namely, physicians, sanitarians, educators and social workers. We feel strongly that the question of preventing unnecessary blindness from all causes must be approached from many standpoints, and that the desired end will only be accomplished through this hearty cooperation already mentioned.

Mr. S. E. Eliot, Organizer Russell Sage Foundation, New York: A word as to my appointment. The correspondence in this matter grew on the hands of Dr. Lewis and the New York committee to such an extent that it seemed justifiable to Miss Louisa Lee Schuyler, chairman of the committee on the prevention of blindness of the Russell Sage Foundation, to have a secretary appointed to go to the different states, work with the nucleus already furnished by the committees on ophthalmia neonatorum and organize associations on the lines of the New York association, of which Miss Van Blarcom is a representative. This work will have to proceed by working with local situations as they are found. As I go on the ground in any state I shall endeavor to ally all agencies connected with the subject, such as health boards, authorities connected with the schools for the blind, and the public schools, and finally the social workers, thus forming associations with part of the group composed of the medical men, and the rest composed of social workers and others who are working for this one end, the prevention of blindness.

Dr. Mark D. Stevenson, Akron, Ohio: It appears to me that in dealing with the general question of the prevention of blindness this Section ought to have a committee entirely from its own members. The committee on ophthalmia neonatorum is very properly composed of a sanitarian, an obstetrician and an ophthalmologist, but of what special interest is the general prevention of blindness from industrial accidents, etc., to the obstetrician; or, for that matter, of what interest is it to the great majority of sanitarians? It seems to me the original motion which provided for the appointment of a committee from this Section by our chairman for the general prevention of blindness was the better one. The Committee on Ophthalmia Neonatorum should be a separate committee, possibly related to this one by having its chairman a member of this committee. This Section ought, above all, to be identified with and be responsible for this important movement for the general prevention of blindness.

[The Section adopted a resolution (printed in The Journal, July 2, p. 58) and sent it to the House of Delegates for approval. That body approved the resolution in modified form (The Journal, June 18, p. 2076).]

FALLACIES IN THE UNDERSTANDING OF ANTISEPTICS AND GERMICIDES WITH SPECIAL REFERENCE TO MERCURIC CHLORID *

MARSH PITZMAN, M.D.
ST. LOUIS

A study of this subject brings into discussion fundamental principles of surgery and is therefore, I trust, of general interest.

An infected wound in this country, in the hands of the majority of surgeons, is treated by a bichlorid of mercury moist pack. To this general procedure I take only the exceptions noted later. A large number of textbooks state and surgeons believe that mercuric chlorid exerts an antiseptic action on the bacteria within the tissues. That bichlorid of mercury as used does not exert such antiseptic action is my main proposition.

CHEMICAL CONSIDERATIONS

We must consider first the chemical structure of mercuric chlorid. As the name implies, two atoms of chlorin are combined with one of mercury. It is due to the mercury that mercuric chlorid possesses its specific action on syphilis and, in case of overdoses, its poisonous activity. It is due to the chlorin that mercuric chlorid possesses its caustic and general germicidal action; for mercury, combined with white of an egg at 1 to 1200, shows absolutely no antiseptic or germicidal action, though of course it would be antisyphilitic and poisonous.[1] Therefore, when mercuric chlorid is used as an antiseptic or germicide, the mercury atom is merely the carrier of the active halogen (chlorin).

In regard to the combination of mercuric chlorid with albuminous fluids, as employed in practical surgery, the literature is confusing and contradictory. That is due to the fact that a sharp distinction has not been drawn between mixtures of mercuric chlorid and albumin with, and those without excess of mercuric chlorid.

My work in the Hygienic Institute of Berlin proves, I believe, that mercuric chlorid combines with albumins in a direct ratio of quantities; that, until excess of mercuric chlorid is present in the mixture of mercuric chlorid and albumin, there is absolutely no antiseptic or germicidal action; further, that, when excess of mercuric chlorid is present in the mixture of mercuric chlorid and albumin, it acts promptly as a germicide, but never as an antiseptic against vegetative (non-sporulated) forms of bacteria. In human serum this division point—this point at which mercuric chlorid begins to exist as a free germicide—is approximately 1 to 10000.

Now let us turn to the practical application of these facts. If mercuric chlorid is to exert any trace of antiseptic or germicidal action on an infected area, it must exist in the affected part in amounts greater than 1 to 10000 of serum. As the albuminous fluids of the body are continuous and circulating, the affinity of all albumins of the body would have to be satisfied before there would be a local excess of free mercuric chlorid. On account of poisoning this is out of the question. Moreover, while free mercuric chlorid, in excess of 1 to 10000 of serum, would act as a germicide on all bacteria, it would be irritant, caustic, and destructive to the body cells as well. At the price of the destruction of body tissues, the use of free mercuric chlorid would again be out of the question. For these two reasons, I maintain that free bichlorid of mercury does not exist as an active chemical in the infected areas, and, therefore, has no antiseptic or germicidal action. Here I might well rest my case.

But the belief that bichlorid in practice does exert an antiseptic action on the progress of an inflammation, is so firmly fixed in the surgical mind that many will undoubtedly remain skeptical. Some, who have seen cases of salivation and even of mercurial poisoning from absorption, will insist that mercuric chlorid is absorbed and in quantities sufficient to exert a germicidal action. The answer is that salivation and poisoning are so extremely rare—are so uncommon even in large lacerated wounds—as to justify the conclusion that mercuric chlorid is but rarely absorbed into the body serum from a dressing. To put the question to a scientific test, however, during my service at St. Louis City Hospital in March and April, 1908, eight patients with large infected wounds, who had been treated throughout with liberal bichlorid packs, were directly examined for absorption. The chemical tests were based on the fact that mercuric chlorid absorbed into the serum is excreted in the urine. The work was done under Dr. Warren, professor of chemistry in Washington University. The method used was that in which organic matter was destroyed with potassium chlorate and hydrochloric acid; the mercury in the solution obtained was precipitated as sulphid, the sulphid dissolved in acid, and the mercury in this solution precipitated on copper wire. The test was sensitive, by control, beyond 1/500 grain bichlorid. In four cases, used as control, in which bichlorid medication was used internally, mercury was present in the urine. The eight patients under bichlorid pack all failed to show presence of mercury in the urine.

The literature contains no contrary reports.[2] Therefore I feel justified in concluding that mercuric chlorid, as used in a moist pack, is not ordinarily absorbed into the tissue fluids.

To recapitulate, I maintain that bichlorid of mercury does not exert its reputed antiseptic action on the bacteria in the tissues for the following reasons:

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* Read before the General Session of the Missouri State Medical Society, at Hannibal, Mo., May 4, 1910.

[1] Pitzman, M.: Ueber das disinficierende Verhalten des Sublimats und Silbernitrats in Eiweisshaltigen Flüssigkeiten, Hyg. Rundschau, 1909, No. 12.

[2] The classic researches ar
Koch, R.: Mitt. a. d. k. Gsnd Leipsic, 1884.
v. Behring: Bekampfung der
Geppart: Berl. klin. Wchnschr., 18
Kronig and Paul: Ztschr. f. Hyg., 1897, xxv, 100.
Other important references are to be found in Kolle and Wassermann's Handbuch der Pathogenen Mikro-Organismen, Jena, 1904, Vol. iv, Part 1, in the chapter on Disinfection, by Prof. E. Gotschlick.

1. It would have to exist in the tissues as excess free bichlorid, which is scientifically hardly conceivable.
2. If it existed as free bichlorid, it would destroy the body cells as well as the bacteria.
3. It is ordinarily not absorbed from a dressing.

CLINICAL CONSIDERATIONS

Like most other scientific facts, the one just demonstrated has its practical bearings, and these practical bearings are what has interested me in the subject. I do not advocate the rejection of bichlorid of mercury from practical surgery; far from it. My object has been simply to define what may rationally be expected of it. Neither do I advocate the substitution of other antiseptics or germicides. None other that I know of is more suitable for practical use. In fact, I should strongly advocate the use of the well-known antiseptics, whose powers and limitations we know, rather than "fly to others that we know not of."

Do any of the other germicides really exert an antiseptic action on the bacteria in the tissues? I feel confident that they do not, for, if they did, they would soon have superseded mercuric chlorid on clinical test. And certainly none has, or has had, the scientific standing of bichlorid of mercury. As regards the judgment of the newer antiseptics every day offered the medical profession, it is a peculiarly significant fact that, after more than twenty years of clinical and research work by the best medical minds of the age, there are still such fundamental differences of opinion in regard to our standard germicides.

Are antiseptics and germicides then valueless? On the contrary, their use from time immemorial has proved their immense value. Their prompt application to a fresh wound will prevent infection, and their use in infected wounds will in great measure prevent reinfection with a more virulent organism. If asepsis approaches perfection—which it does rarely—then antiseptics and germicides may be dispensed with in infected wounds. The strong surgical belief in the antiseptic action of chemicals on infected wounds is due, according to my best lights, to this check on the asepsis, this prevention of reinfection.

But there is a greater, a more serious fault, due in great part to the belief in the actual antiseptic power in the tissues. I refer to the neglect of rest, that first principle of surgery. Hilton's classic on "Rest and Pain," and, in modern literature, Ochsner's "Clinical Surgery," in which the arguments are put clearly, strongly and convincingly, must be unknown to many of the modern surgeons. In their eagerness to apply antiseptics, surgeons dress acute spreading infections many times during the twenty-four hours, to the neglect of rest! In cellulitis they incise before pus can localize, so that the antiseptic may penetrate, again forgetful of that prime requisite, rest! The belief in the actual antiseptic power of chemicals must bear its full share of that grave charge—than which there is no fault more crying in modern surgery—the neglect of rest.

In more serious infections the error of using strong antiseptics is common, and often grave in its consequences. If the solution be strong, or the skin irritable, so that a dermatitis follows, rest would be disturbed. In such cases therefore it is important to use a very weak antiseptic, or perhaps preferably plain water or saline solution. Such a pack with splints should be undisturbed for at least forty-eight hours, as Ochsner so convincingly shows. To those who have accepted my argument there can no longer be mystery in the use of the saline pack.

The question of cleansers, stimulants, astringents, ointments, and dusting powders has been purposely omitted from the discussion, on the ground that their action is not due to their antiseptic or germicidal properties. Often confusion arises from the fact that the same chemical may be used for different ends; as, for example, silver nitrate as a *germicide prophylactic* against ophthalmia neonatorum, whereas in chronic conjunctivitis its use is dependent on its stimulating and astringent qualities. The question whether the clinical value of many chemicals is due to their antiseptic, or, on the other hand, to their cleansing, stimulant, or astringent properties, is in many cases still *sub judice*.

In conclusion let me state that I practice what I preach. I shall not insult your intelligence, however, by reporting cases which, in comparison with the observed material, could be but as a drop in an ocean.

FURTHER INVESTIGATIONS REGARDING THE ETIOLOGY OF TABARDILLO, MEXICAN TYPHUS FEVER *

H. T. RICKETTS, M. D., AND RUSSELL M. WILDER
CHICAGO

In a previous article[1] we have reported certain experiments which indicated the rôle of the body louse (*Pediculus vestamenti*) in the transmission of Mexican typhus fever. Since that date we have been able to confirm the results of our first investigations, and also to obtain certain other experimental data concerning the etiology of this disease. The experiments which we wish to report at present[2] relate to the hereditary transmission of the infectivity of the louse and the possible rôle of the bedbug and the flea in the transmission of typhus.

HEREDITARY TRANSMISSION OF THE INFECTIVITY OF THE LOUSE

The following experiment was undertaken with a view to determining whether the young of infected lice were themselves infected. The adult louse contains in its ovaries many mature eggs. These eggs are covered with a compact shell which we thought might prove impermeable to micro-organisms. Hence it was decided to rear young lice to maturity on the bodies of typhus patients, so that if the eggs were susceptible to infection at any stage of their development, they would have every opportunity of being infected within the ovary.

On March 29, 140 adult lice of Group 17 (*Pediculus vestamenti*) 70 males and 70 females, were placed in a stocking on the leg of a typhus patient (No. 41). The stocking was sealed above with adhesive tape to prevent the escape of any of the insects. Two days later 1,000 eggs were found adhering to the fibers of the stocking. The lice were removed and replaced on the patient in a fresh stocking, while the stocking containing the eggs was put on the patient's other leg. Approximately 800 more eggs were subsequently laid by this generation of lice.

By April 6 many of the eggs began to hatch and by April 15 about 500 young lice had been collected.

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* From the Department of Pathology of the University of Chicago and the Memorial Institute for Infectious Diseases, Chicago.

[1] THE JOURNAL A. M. A., April 16, 1910, p. 1304.

[2] It is planned to publish at some *later date* a more comprehensive report of our investigations of typhus fever.

These were placed in a fresh stocking which was kept constantly on the leg of a patient in an early stage of fever. For this purpose Patients 47, 49, 50, 52 and 53 were used. Many of the young lice died but approximately 250 of them reached maturity and in turn laid eggs.

When a sufficiently large number of these presumably infected eggs of the second generation had been obtained, all of the adult lice were removed and placed in a new stocking on the same patient. The stocking containing the eggs was then sealed and incubated between the sheet and the mattress of a patient in an early stage of convalescence.

Monkey 42, of the species *Macacus rhesus*, who served for this experiment, had been recently imported into Mexico from a district free from typhus. As the eggs hatched, the young lice were collected and placed on this normal monkey in the following manner. The animal's skin was shaved over the entire abdomen and a piece of finely woven linen, two inches by three, was tightly secured to the skin by means of a border of two-inch adhesive tape. One edge of the cloth was left unattached and the open end of a tube containing the young lice inserted beneath this edge, the lice being dumped into the pocket formed between the cloth and the skin. The mouth of the pocket was then sealed with tape and the animal clothed in a heavy canvas jacket in order to prevent interference with the lice. Thus on April 28 fifty young lice were placed on the monkey. On April 30, thirty more were added. At this time it was noted that the lice of April 28 had fed, their bodies being gorged with blood. On May 2, twenty-five additional lice were collected from the stocking and placed on the monkey. Thus in all 105 lice, the offspring of infected lice, but themselves never directly infected, were given an opportunity of feeding on Monkey 42.

Unfortunately the temperature of this animal could not be taken regularly during the following three or four weeks, nor was he under very careful observation during this period. On May 26, however, he appeared to be in good health. But more important is the fact that he proved resistant to a subsequent immunity test described below.

In our work on transmission with lice we have, with one exception, never succeeded in provoking a very characteristic febrile reaction in the macacus monkey by means of the bite of lice, the relative insusceptibility of the monkey to typhus probably accounting for his resistance to infection by lice. It has been found, however, that monkeys who have been subjected to the bites of infected lice are thereby rendered immune to subsequent inoculations of typhus blood which constantly provokes in normal monkeys a high febrile reaction. This immunity has been interpreted as indicating that the animal has been infected by the lice and has suffered a mild attack of typhus, and the immunity test thus constitutes the chief criterion for determining whether or not an animal has been infected by insects.

Such an immunity test, consisting of the intraperitoneal inoculation of 3.5 c.c. of virulent typhus blood from a typhus patient (No. 58) was given to Monkey 42 on May 27. For the following three weeks the animal remained in perfect health, although controls inoculated with the same quantity of the same material all contracted a typhus of moderate severity, their temperatures maintaining an elevation of 104 to 105.7 F. for a period of ten or eleven days.

Table 1 shows the temperatures of Monkey 42 on the successive days following the inoculation, Table 2 those of the control monkey (No. 44).

TABLE 1.—IMMUNITY TEST OF MONKEY 42

	A. M.	P. M.		A. M.	P. M.
May 28........	102.6	102.2	June 10........	102.3	102.1
May 29........	101.6	101.9	June 11........	102.0	102.5
May 30........	101.2	101.9	June 12........	102.0	102.8
May 31........	101.6	102.0	June 13........	100.8	102.0
June 1........	101.4	101.8	June 14........	99.6	100.6
June 2........	101.6	102.2	June 15........	100.3	101.5
June 3........	102.0	102.4	June 16........	101.2	101.4
June 4........	101.6	102.4	June 17........	100.9	101.9
June 5........	*104.1*	*103.7*	June 18........	100.4	102.0
June 6........	*103.2*	103.0	June 19........	101.0	102.2
June 7........	*103.0*	102.8	June 20........	100.8	101.7
June 8........	101.6	103.0	June 21........	100.2	102.4
June 9........	100.4	102.2	June 22........	101.3	101.8

TABLE 2.—TEMPERATURE OF MONKEY 44 FOLLOWING INOCULATION WITH TYPHUS BLOOD

	A. M.	P. M.		A. M.	P. M.
May 28........	102.3	102.5	June 8........	*104.0*	*105.5*
May 29........	102.0	102.5	June 9........	*104.1*	*104.7*
May 30........	101.9	102.0	June 10........	*105.6*	*103.9*
May 31........	101.5	102.3	June 11........	*104.6*	*105.2*
June 1........	100.6	101.6	June 12........	*103.2*	*103.1*
June 2........	101.6	*103.7*	June 13........	101.6	102.1
June 3........	*102.6*	*103.3*	June 14........	101.0	102.2
June 4........	*105.6*	*105.7*	June 15........	101.0	101.6
June 5........	*104.0*	*104.3*	June 16........	100.6	101.6
June 6........	*103.3*	*103.3*	June 17........	100.3	101.0
June 7........	*103 5*	*104.9*			

It has been our experience to find a great variation in the daily temperatures of normal macacus monkeys. These animals are prone to slight intestinal disorders and a sporadic elevation of one, or even two degrees, has been frequently noticed. The normal afternoon temperatures of many of our monkeys lay constantly between 103 and 104 F. Hence there arises a certain difficulty in interpreting the slight elevation of temperature shown by Monkey 42 on June 5 and June 6. This may or may not be a mild effect of the virus, but in any case the effect was far less than that obtained before in all normal animals, including the control monkey (No. 44) of this particular experiment, and it is quite probable that the elevation observed was purely accidental.

We appreciate that the result of one experiment does not constitute decisive proof, but the definiteness of the result justifies us, in our opinion, in concluding that Monkey 42 owed his immunity to his previous infection by the young lice of Group 17, and that hereditary transmission of the infectivity of the louse is established to the extent of reasonable probability.

INFECTIOUSNESS OF THE FLEA AND OF THE BEDBUG

Theoretical considerations make it seem extremely probable that neither the bedbug nor the flea plays any rôle in the transmission of typhus. We have called attention to this in a previous article,[3] and Anderson and Goldberger[4] have expressed the same opinion. The bedbug is only rarely carried about in the clothing and yet it is well known that people who handle the clothing of typhus patients, such as laundresses and servants, are frequently stricken with typhus. A number of cases of typhus have occurred during the last year among the nurses and servants of the typhus pavilion of the general hospital of Mexico City. A careful search failed to reveal any bedbugs in this building. Furthermore, if the bedbug transmitted typhus we should expect the disease to be a "house disease"; but cases are constantly occurring which it is impossible to trace to any "typhus house."

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[3] The Journal A. M. A., Feb. 5, 1910, p. 463.

[4] Pub. Health Rep., Feb. 18, 1910, No. 7.

The flea also seems innocent. Did it play any rôle, the distribution of typhus in Mexico City would be much more general than is the case, for the flea is widely distributed. Typhus, however, is confined almost exclusively to those living under less satisfactory hygienic conditions. Finally, as previously mentioned, the season of typhus is the winter and early spring whereas the period of greatest prevalence of the flea is the summer.

In order to throw further light on this question the following experiments were undertaken.

EXPERIMENTS ON THE INFECTIOUSNESS OF THE BEDBUG

A group of about fifty bedbugs was fed on three successive days on patients at the general hospital. The bugs were confined beneath a small wide-mouthed glass bottle inverted over the skin of the patient. In this way ten or twelve could be fed at one time. All were given the opportunity of gorging themselves with blood.

On April 2, two days after their last feeding on a patient, they were placed on the shaved abdomen of a monkey (No. 35) and allowed to feed. On April 3 they were again placed on the monkey, only eight feeding. On April 4 they were not fed. On April 5, twenty-eight bugs fed well on the animal; April 6, eighteen bugs fed lightly; April 7, seventeen bugs fed lightly; April 12, 29 bugs fed well, gorging themselves with blood.

The animal showed absolutely no rise in temperature, and continued in excellent health during the following thirty-two days. Unfortunately he died from an accident before an immunity test could be given him, and hence the experiment cannot be taken as proof of the non-infectiousness of the bedbug. It does seem to eliminate the possibility that the bedbug can transmit typhus more readily than can the louse, in so much as both the period of feedings on the infected host and the period of feeding on the monkey were considerably in excess of the feedings of the louse in certain of our experiments.

EXPERIMENTS ON THE INFECTIVITY OF THE FLEA

Human fleas, of flea Group 2, were infected by repeated feedings on typhus patients at the general hospital in the following manner: One or two fleas were confined in each of several long and narrow tubes. These tubes were made of 4 mm. glass tubing, were sealed at one end and cut sufficiently long (20 cm.) to prevent the escape of the flea by jumping. For this purpose also they were slightly bent in the middle. The fleas were fed by inverting this tube on the patient's skin.

Subsequent to their last feeding the fleas were allowed to rest for about sixty hours. The entire bodies of ten of the group were then emulsified in physiologic salt solution and rubbed into scarifications of the abdominal skin of a normal monkey (No. 41), the technic employed in this procedure being the same as that used in the scarification experiment performed with the intestinal contents of lice and previously reported[1]. The wounds healed with but little suppuration. The animal's temperature was taken twice daily for the following thirty-four days and during this time he remained in perfect health.

On May 27 this monkey was given an immunity test, receiving an inoculation of 3.5 c.c. of typhus blood from patient 58. After an incubation period of seven days he began to run a fever which lasted for twelve days, his temperature being recorded in table 3.

TABLE 3.—TEMPERATURE OF MONKEY 41 AFTER RECEIVING AN IMMUNITY TEST

	A. M.	P. M.		A. M.	P. M.
May 28.......	102.6	102.6	June 10.......	*104.4*	*105.0*
May 29.......	101.8	102.0	June 11.......	*104.4*	*105.6*
May 30.......	102.3	102.8	June 12.......	*103.6*	*105.5*
May 31.......	101.6	102.6	June 13.......	*104.6*	*104.8*
June 1........	101.9	101.9	June 14.......	*103.5*	*104.8*
June 2........	101.9	102.7	June 15.......	*103.9*	*103.5*
June 3........	101.4	102.3	June 16.......	102.9	102.8
June 4........	*103.1*	*104.1*	June 17.......	102.5	102.8
June 5........	*104.5*	*104.5*	June 18.......	102.5	102.0
June 6........	*103.1*	*104.1*	June 19.......	101.5	101.8
June 7........	*105.0*	*105.3*	June 20.......	101.6	102.5
June 8........	*103.2*	*103.6*	June 21.......	101.5	102.6
June 9........	101.4	*103.1*	June 22.......	101.9	102.3

On June 4, a leukocyte count was made[5] which showed 30,350. The animal was very irritable and his coat dry and ruffled. On the 5th he had diarrhea and until the 14th of the month seemed very sick. His subsequent recovery was rapid and complete.

In brief, No. 41 had not been infected by the fleas, as is shown by the fact that he was not immune to a subsequent inoculation of typhus blood.

These results seem to strengthen our previous position as to the unimportance of the flea and the bedbug in the transmission of Mexican typhus fever.

We take pleasure in expressing our obligations to Dr. Liceaga and his assistants of the Superior Board of Health of Mexico, to the authorities of the general hospital and to Dr. Goviño of the Bacteriologic Institute for numerous courtesies. In particular we wish to acknowledge our indebtedness to Dr. Genarø Escalona, Dr. Francis E. Prestley and Sr. D. Perez Garça, of Mexico City, for cöoperation and assistance.

5811 Monroe Avenue.

THE VALUE OF COMBINATIONS OF NARCOTICS AND ANTIPYRETICS

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NEW YORK

It is a well-known fact that certain drugs acquire their highest therapeutic efficiency in combination with other drugs. In such combinations not only is their therapeutic effect increased, but in addition possible disagreeable by-effects are neutralized and not infrequently the therapeutic action of the adjuvant is made more prominent. As familiar examples of such combinations may be mentioned iron and arsenic, mercury and potassium iodid, quinin, iron and arsenic or strychnin. Furthermore, I have observed that the disagreeable effects of chloral may be minimized by combining it with a bromid, codein or morphin. Well-known are the excellent results which have been obtained by the combination of morphin and atropin, morphin and scopolamin, cocain and adrenalin, and lately a combination of physostigmin and pilocarpin has been highly recommended in the treatment of glaucoma. In this connection I will discuss a number of combinations of narcotics with the synthetic antipyretics, drugs which have played a prominent rôle in modern therapy.

Soon after the introduction of lactophenin by Jaksch in the treatment of typhoid, I experienced in two different patients symptoms of severe collapse after ordering therapeutic doses of this drug.[1] Doubtless there occurred here the well-recognized profound toxic action of this p-amido-phenol derivative on the ganglion cells of the motor zones in the cerebrum and medulla oblongata. Whether these patients had an idiosyncrasy for the drug or not it is impossible for me to say, because the severity of the typhoid and the collapse precluded a continuance of the drug. Since then, I have used lactophenin in combination with caffein citrate and codein and have never again witnessed toxic effects. Conditions are similar in regard to acetanilid. If acetanilid is given alone, toxic symptoms are liable to ensue, owing to its cumulative effects, due to the low solubility of this drug and the consequent accumulation of considerable quantities of anilin oil in the intestine. This drug acts on the motor centers in the cerebrum and the respiratory center in the medulla similarly to lactophenin. The toxic effects can be minimized by combining acetanilid with bromids, codein, caffein, etc. The reason why acetanilid in the proprietary headache powders as an analgesic or antipyretic does not more frequently cause toxic symptoms is that the drug is usually combined with one or more of these adjuvants. Combinations of the synthetic antipyretics are most efficient in the treatment of acute febrile diseases and inflammations of various character than when either of these drugs is used alone and without a narcotic, an observation which I made soon after the introduction of phenacetin into our therapeutics.

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[1] N. Y. Med. Monatschr., November, 1903.

[5] Leukocytosis is observed in nearly all cases of typhus in man. In conjunction with Dr. Francis E. Prestley of Mexico City, we have made a series of leukocyte counts of most of the monkeys in our possession. It was found that monkeys sick with typhus fever usually showed a marked increase in the number of white blood corpuscles over the normal which approximates 12,000. Differential counts based on the same material will be reported in a later communication.

In this connection I may mention the interesting experiments of Spiess,[2] that inflammations are very susceptible to cure if the reflex in the sensory centripetal nerve from the focus of the inflammatory process can be excluded (areflexia). This may be obtained by excluding the pain, which is caused by the irritation of the sensory nerve, by a narcotic; in this way the hyperemia disappears, though the sympathetic inervation of the blood-vessels remains intact. As proof of this theory, Spiess cites the example that in sleep the active phenomena of inflammation subside and that in syringomyelia and hysteria severe destructive processes may occur without active inflammatory phenomena. He also believes that the healing effect of Bier's hyperemia—the subsidence of the symptoms of inflammation—is brought about by the disappearance of pain, which phenomenon in turn relieves the active congestion. According to Hans H. Meyer[3] the narcotic effects of anesthetics and narcotics are due to the fact that a physical alteration in the composition of the cell lipoids is brought about by these drugs causing a change in the ion-permeability of the cells, and hence the chief cause for the chemical process of irritation and inflammation should be abolished in this way.

Two simultaneously or successively administered narcotics act more quickly and more powerfully than the simple addition of the effects of these two narcotics, would indicate.[4] This multiplication of narcotic effect of two different narcotics or anesthetics is particularly pronounced when these two substances are not related chemically. As an instance I would cite the administration of a small dose of morphin before a general anesthetic or scopolamin and morphin, in obstetric practice I have also shown (in collaboration with Dr. Reich.[5]) that the administration of veronal a few hours before any surgical operation is performed will reduce the quantity of the general anesthetic required to a surprising extent. Buergi asserts that the cells can absorb more of the pharmacologically active substance out of a mixture of drugs when the cell possesses a different receptor for each substance. When two drugs have the same cell receptor, as the narcotics of the fatty acid series, for instance (paraldehyde, ethyl carbamate (urethane), chloral), when given in combination, their narcotic action is not a multiple, but merely an addition of the effects of the two drugs combined. According to Buergi, lactophenin, antipyrin, pyramidon and phenacetin possess definite narcotic properties and their subcutaneous injection enhanced the action of pure narcotics, as urethan, for instance. The antipyretics have much in common in their therapeutic effects with the hypnotics. My experience with acetylsalicylic acid (aspirin) and other salicylic acid derivatives taught me that their beneficial therapeutic action as antipyretics was due chiefly to their anestheic and narcotic effect. For this reason, I have been using for many years with excellent therapeutic results in the treatment of infectious fevers (influenza, rheumatism, pneumonia, etc.) a combination of phenacetin (0.25—0.5 gm.) salicylate of soda (0.5—1.0 gm.) caffein citrate (0.03—0.05 gm.) and codein sulphate (0.01—0.02 gm.). The leading thought in this and similar combinations of medicaments is to attack the disease on various points. The excellent clinical results obtained by such drug combinations have been reported repeatedly,[6] but only experiments of Spiess and Buergi gave them a scientific foundation.

224 West Twenty-fourth Street.

A STUDY IN THE PREVENTION OF ADHESIONS *

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AND CYRUS W. FIELD

LOUISVILLE, KY.

For many years papers have appeared intermittently recommending the use of oil in the peritoneal cavity to prevent the formation of alhesions.

When we began our work in the laboratory on this subject we could find no paper dealing with it from an experimental standpoint; though while this work was in progress the paper by Wilkie[1] appeared. He formed adhesions in twelve animals (cats) by irritating the peritoneum. At the end of six or eight weeks these adhesions were broken down and in six of the animals a liquid paraffin was smeared over the raw surfaces. At the end of a month the animals treated with the paraffin showed fewer and less dense adhesions than the controls. The oil was not found free in the peritoneal cavity after fifteen days in macroscopic quantities.

In the work performed by us we have used dogs entirely and have compared the value of olive oil and a colorless liquid petrolatum. Every experiment has been controlled, the animals being used in pairs. The peritoneal cavity in both dogs being irritated in the same way. The peritoneal surfaces were cauterized or scraped until they bled and in some cases strips of the peritoneum were removed with scissors. One of a pair of dogs so treated received 25-35 c.c. of oil in the peritoneal cavity, after the peritoneum had been injured.

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2. München. med. Wchnschr., 1906, p. 348.
3. München. med. Wchnschr., 1909, No. 31.
4. Buergi: Deutsch. med. Wchnschr., 1910, Nos. 1 and 2.
5. Therap. Monatsbr., July, 1908
6. Treupel: Deutch. med. Wchnschr., 1909, No. 46.

* From the Laboratory of Pathology of the University of Louisville.

1. Wilkie, D. P. D.: Surg., Gynec. and Obst., February, 1910.

PROTOCOLS OF EXPERIMENTS WITH OLIVE OIL

Here are typical protocols of such experiments, olive oil being used in these cases to prevent the formation of adhesions.

DOG 9.—The animal was operated on Feb. 8, 1910. The parietal peritoneum was scraped on the right and left sides until it bled, also several loops of intestine, and three sterile pith-balls were placed in the cavity and olive oil (about 30 c.c.) was then poured into the abdominal cavity. The dog was killed Feb. 15, 1910—that is, one week after the operation.

Autopsy.—Free olive oil, about 25 c.c, was found in the abdominal cavity. There were very slight adhesions of the omentum to the parietal peritoneum on the right side, while the left side showed no adhesions, nor were there any between the intestinal loops.

DOG 10.—This was a control, operated on Feb. 8, 1910, and killed Feb. 15, 1910, one week after operation. It was given exactly the same treatment as Dog 9, except that no oil was put into the abdominal cavity.

Autopsy.—The parietal peritoneum was firmly adherent to the omentum on both right and left sides, and the loops of intestine were adherent to the parietal peritoneum in five places. There were numerous adhesions between loops of the intestine, and the pith-balls were bound up in adhesions on the surface of the intestines.

DOG 11.—The animal was operated on Feb. 9, 1910, and killed March 2, 1910, three weeks after operation. The parietal peritoneum, liver and portions of intestine were scraped with a knife until they bled. Olive oil (about 30 c.c) was poured into the abdominal cavity.

Autopsy.—No adhesions were found. Olive oil completely filled the cavity, about 20 c.c being removed.

DOG 12.—This was a control, treated the same as Dog 11, except that no olive oil was used.

Autopsy.—The liver was adherent to the parietal peritoneum, and there were dense adhesions between the loops of intestines.

DOG 20.—The animal was operated on Feb. 21, 1910, and killed March 7, 1910. The parietal peritoneum was scraped over as large an area as could be reached and olive oil was poured into the abdominal cavity.

Autopsy.—Two weeks after operation the autopsy showed scar tissue where the parietal peritoneum was scratched. There were no adhesions in any portion of the abdominal cavity. Clear yellow oil, about 10 c.c., was found in abdominal cavity.

In the ten dogs treated with olive oil only one showed any adhesions, and in that case only along the line of incision between the peritoneum and omentum.

PROTOCOLS OF EXPERIMENTS WITH LIQUID PETROLATUM

In six dogs treated with liquid petrolatum all but one showed adhesions.

DOG. 24.—The animal was operated on March 14, 1910. The parietal peritoneum was scraped until it bled, and then liquid petrolatum, about 30 c.c., was poured into the abdominal cavity. The dog was killed April 7, 1910.

Autopsy.—Firm adhesions of intestines to parietal peritoneum were found. A small quantity of liquid petrolatum (about 5 c.c) was found in the abdominal cavity, in an emulsified form.

In twelve dogs in which no oil was used adhesions were found in all but one. On another series of dogs the peritoneum was irritated and then the wound closed, and adhesions allowed to form. At the end of two or three weeks they were opened and the adhesions broken down.

In one dog in each case the wound was at once closed without any further treatment. In the other, oil was introduced and the wound then closed. The dogs were allowed to live three or four weeks after the second operation. In those in which olive oil was introduced the adhesions were not reformed, but the controls and those treated with liquid petrolatum showed the presence of numerous adhesions.

The following is a protocol of such an experiment with liquid petrolatum.

DOG 14.—The animal was operated on March 11, 1910. The intestines were scratched until they bled. The abdomen was reopened on March 17, 1910. Adhesions of intestines were found along the right and left side of parietal peritoneum and also between the loops of intestines. The adhesions were broken up and 30 c.c. of liquid petrolatum poured into the abdominal cavity.

Autopsy.—March 30, 1910. Adhesions of intestines to parietal peritoneum were found and of loops of intestines between themselves. Liquid petrolatum was found in an emulsified form.

In the following case both olive oil and liquid petrolatum were used at different times on the same dog:

DOG 13.—The animal was operated on Feb. 14, 1910. The parietal peritoneum was scraped till it bled freely. Olive oil (30 c.c.) was introduced into the abdominal cavity, which was reopened on March 11, 1910. No adhesions or olive oil were found in the abdominal cavity. There was scar tissue where the parietal peritoneum had been scraped. The small intestine and peritoneum were scraped and liquid petrolatum poured into the cavity.

Autopsy.—March 30. The intestine was found very firmly adherent to the parietal peritoneum in several places. Liquid petrolatum was found in the abdominal cavity in an emulsified state.

BEHAVIOR OF THE OIL IN THE PERITONEAL CAVITY

At the end of three weeks we have uniformly found 5 to 20 c.c. of clear olive oil in the peritoneal cavity. At the end of four weeks the olive oil may still be present but not usually in sufficient quantity to measure. Liquid petrolatum on the other hand, is absorbed slightly sooner and forms an emulsion within the cavity. In other words, it does not form a film over the serous surface, as does the olive oil, which later forms a definite oily layer over the whole peritoneal surface.

In the case of olive oil two points have to be guarded against.

The first is that the olive oil must not be heated to such an extent that the fatty acids will be liberated. It may be sterilized at 115 C. for fifteen minutes. This temperature is not sufficient to split the oil. If free fatty acids are present they irritate the peritoneum and the oil is found as a thick white emulsion which on microscopic examination shows the presence of enormous numbers of polymorphonuclear leucocytes, though even with this irritant, adhesions were not found.

The second point to be guarded against is allowing the oil to come into contact with the tissues about the abdominal incision. This may be done in two ways; the first is by pouring the oil into the peritoneal cavity by aid of a funnel whose end reaches well within the cavity, and the surface of the wound carefully retracted upward during the closure. The second method, and without question the better, is the introduction of the oil into the peritoneal cavity by the use of a large syringe attached to a needle whose inside diameter is at least 1 mm. After the needle is withdrawn the abdomen is gently massaged so as to spread the oil throughout the cavity.

CONCLUSIONS

1. Olive oil does seem to prevent the formation of adhesions in dogs and is worthy of a thorough trial in human surgery.

2. Liquid petrolatum has but slight value for such a purpose.

PNEUMATIC ILLUMINATED INFANTILE SIGMOIDOSCOPE

A NEW RECTAL INSTRUMENT

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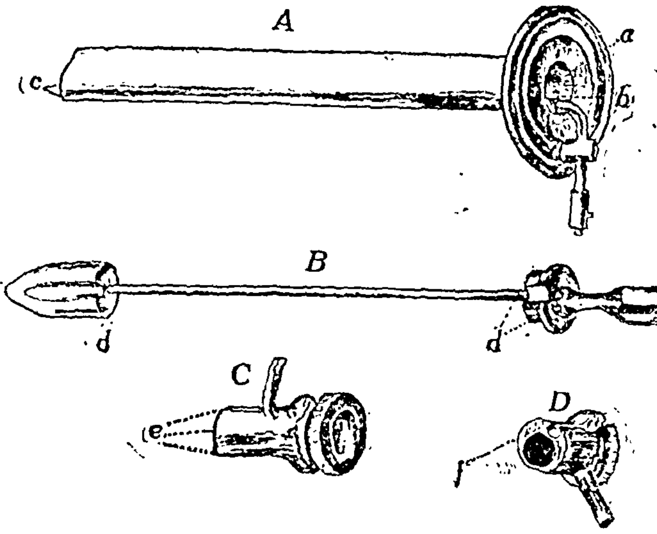
This instrument was designed primarily for the examination and treatment of rectal diseases in children. Reflected light gave very unsatisfactory results because of the resistance and struggle of the little patients. The light could not be placed and fixed at the point to be examined as it can with this instrument. These drawings and designs were made by me and sent to the Electro-Surgical Instrument Company of Rochester, N. Y., who produced a most satisfactory instrument. It is simply a modification of Dr. James P. Tuttle's 6-inch illuminated pneumatic proctoscope. I claim originality only for the instrument being made for the examination and treatment of children. The modifications are as follows: ,



Pneumatic illuminated infantile sigmoidoscope; actual working length of instrument (*A*) 6 inches; inside diameter of tube (*a*) ⅝ inch; *b*, auxiliary chamber or tube for light-carrier wholly within the main tube of instrument; *c*, flint-glass bulb fitted in distal end of auxiliary tube to protect light-bulb; *B*, obturator, diameter (*d*, *d*) ⅝ inch; *C*, window, outside diameter (*c*) ⅝ inch; *D*, window showing slot for carrier (*f*).

1. The instrument is very much reduced in caliber.
2. The auxiliary chamber is placed wholly within the tube in order to make the instrument as small as possible and yet give ample room for making applications through it.
3. The obturator is more tapering than those of the Tuttle instrument. This facilitates its introduction into an invaginated bowel and during the straining of the child.
4. On account of the smallness of the instrument, the window had to be so constructed that the light-carrier must be removed before the introduction or removal of the window. The light-carrier and lights are the same as in the Tuttle instrument.

The instrument was primarily and originally designed for the treatment of rectal diseases in infants and children, but on an extended use of it I find it a most useful instrument for diagnostic purposes in all kinds of cases, both of children and of adults. It is particularly useful in all irritable and painful conditions of the anus, such as strictures, fissures and fistulas; and in nervous women and timid men. I have found it very serviceable in making hasty and painless treatment of all conditions of the rectum and lower sigmoid. It is very easy of introduction, even in infants. When made 6 inches long, the instrument serves the triple purpose of an anoscope, proctoscope and sigmoidoscope for infants and children.

Therapeutics

SOLID CARBON DIOXID

It has long been recognized that most abnormal tissues can be removed most quickly and satisfactorily with the knife. Under some circumstances, however, burning the tissues by means of the actual cautery or the electric cautery has seemed to possess distinct advantages. In a limited range of cases destruction by electrolysis produces results which cannot be obtained equally well in any other way. It is only rather recently that the destruction of tissue by means of extreme cold has become practically available in the treatment of a variety of superficial lesions, in which the methods of treatment hitherto employed have not accomplished as good results as seemed desirable both to the patient and to his physician. This form of treatment has been rendered available by the recent progress in physics which has enabled the profession to obtain atmospheric air in the liquid state, and carbonic acid as a solid. The difficulty in reducing air to the form of a liquid is so great and the process is so expensive that it has been used far less extensively than the solid carbonic acid.

Although carbonic acid in its natural state is a gas, it is a well-known chemical fact that by the combined action of pressure and low temperature it can be reduced to the form of a liquid. This change takes place under a pressure of thirty-six atmospheres at a temperature of 32° F., or 0° C., the freezing-point for water. At ordinary temperatures a pressure of fifty or sixty atmospheres would be requisite.

Liquid carbonic acid is colorless and transparent, and when exposed to the air evaporates rapidly with the result that a far higher degree of cold is produced, and this results in a part of the fluid being reduced to a loose white solid substance, which disappears without resuming the liquid form. The change of the solid into the gaseous state occurs more slowly than the evaporation of the liquid, and, for this reason, it becomes available for therapeutic use. The temperature of the evaporating solid is about —80 C. This may be reduced to 110 C. by mixing the solid with ether.

Dr. William S. Gottheil, of New York City, (*New York State Journal of Medicine*, January 1910) in an instructive, practical article gives minute details for preparing the carbonic acid snow. The carbonic acid is procured in the form of a compressed gas in tanks holding twenty gallons which are in common use in soda water fountains to carbonate water, and in saloons to furnish pressure for beer pumps. It has also been used for quickly freezing tissues for microscopic examination. Gottheil describes the manipulations incident to preparing the solid mass of carbonic acid as follows: "The screw-cap over the vent having been removed, a towel folded so as to form a cylinder with a hollow the size of the mass required is firmly bandaged onto the vent. There is no limit to the size or shape of the hollow receptacle thus made; I usually have mine twice the thickness of a broomstick in diameter and four or six inches in length, so that I have a good handle to work with. If a large flat mass is needed the receptacle is shaped accordingly. A piece of chamois skin or blotting paper may be used inside the towel or between its folds; the closer texture facilitates the hard freezing of the outer layers of the mass, but this is not necessary. An important point is the very tight and thorough bandaging of the towel-cone to the neck of the vent. As much resistance to the gas pressure as is possible together with a porous material that will allow the ice to freeze up in its interstices is required. The entire appliance is then firmly closed and bound up with another bandage. Improper closure, and especially insufficient bandaging around the vent permits the too rapid escape of the gas and inefficient packing of the ice.

"The cylinder is then laid on a table or chair, partially inverted so that the vent is lower than the body of the container, and by means of the key and upper stopcock, the gas is allowed to run into the towel cylinder fairly slowly. There will be some escape of gas and snow under any circumstances; but the less there is the more successful will be the drawing. If there is a large escape at any one point, and this is especially prone to occur around the vent, it must be reinforced with more bandaging. The gradual hardening and getting cold of the bandaged mass shows the filling of the cylinder with the solid material; and the dioxid is frozen solid in the interstices of the containing towel, chamois, and bandages. There is now a mass of softer solid dioxid contained in a hard resistant envelope of frozen material, and this must be packed into ice. The stop cock is now opened wider so that gas escapes in a series of short and violent jets; a distinct crackling of the mass shows that solid hard ice has formed. The tank is then closed, the bandage removed, and the solid dioxid ice is ready for use. It will always be found that the hardest part of the ice cone is that formed at the vent of the cylinder; hence that is the end to be employed when applications of extended time and with pressure are to be made."

By this method a mass may be obtained of any degree of hardness and of any size. It may be shaved or whittled into any desired shape. Being formed in large and solid masses it will last for hours if properly protected, so that it can be prepared in the office and carried to the patient's home. Wrapped in paper and placed in the ice box, or out of doors in cold weather, it will last for from four to six hours. It will also remain as ice for hours if placed in a vacuum bottle.

The solid material may be made into any shape required, but the mass should be at least an inch in length, on account of the rapidity with which it disappears. The duration of the application may vary from thirty seconds to two minutes. The amount of pressure depends on the extent of action desired.

The application may be so light and of so short duration that only a slight erythema, without vesiculation, is produced, and the normal condition is soon resumed.

If a somewhat firmer pressure is used for a somewhat longer time, distinct vesiculation follows, which is succeeded by the formation of a thin scar.

If the application is more vigorous and continued for a still longer time, the entire thickness of the skin may be destroyed.

The result of an ordinary application of medium intensity with moderate pressure for thirty seconds is described by Gottheil thus: "As the ice cone melts down, the skin around it swells up slightly, so that when the application is over we have a snow-white solid congealed area that is depressed below the skin and is surrounded by an erythematous, hard, raised border. The congealed area rapidly thaws out from the periphery, and in a few minutes it has disappeared. The treated area becomes red and swells up, and in half an hour or so vesiculation is distinct. The bleb is left to dry up of itself; no dressing is applied except when it is necessary to protect the lesion from injury; and in a few days it forms a dry crust."

The applications are attended by but a slight amount of pain. After the thawing there is some burning and throbbing which does not last more than two or three hours.

If the tissues are not frozen deeply, there is no necessity of applying any dressing. When, however, the parts are frozen to a considerable depth, and the patient is careless and uncleanly, so that infection occurs, the same treatment must be followed as in other infected wounds.

The treatment may be repeated if necessary after intervals of one or more weeks.

When the lip is treated a layer of dry cotton must be placed between it and the gum to protect the latter from being frozen. Similarly when treating the eyelid it must be pulled away from the eyeball and cotton used between the two to prevent undesirable extension of the freezing. Care must be taken to dry the parts and to keep the cotton dry lest such accidental moisture should become frozen. After light applications there will either be no scar tissue or it will be so superficial as to be almost invisible.

Gottheil says that when the destruction of tissue has been deeper a veil-like covering of connective tissue can with careful applications be secured with a texture which can hardly be distinguished from that of normal skin, and with such thickness and contractility as is desirable. This may be useful in covering up extensive or deep-seated lesions whose complete destruction is impracticable.

The scar when visible is smooth, superficial and soft, and cannot be duplicated in these particulars by any other method.

This refrigeration by means of the carbonic acid snow is applicable to a variety of skin diseases which have not hitherto been treated very satisfactorily by other methods. Gottheil enumerates birthmarks of every variety and all sizes, port-wine stains and angiomata, superficial and deep, pigmentary, hairy, and hypertrophic congenital deformities of all kinds, and even cavernous angiomata. In leucoplakia and precancerous keratosis it is useful, and it also removes the warty and degenerating growths which appear on the hands of those who use the Roentgen ray. Rodent ulcers and superficial epithelioma may be apparently cured. In deeper infiltrating cancer of the skin, in keloid and lupus vulgaris its value has not yet been definitely determined. Senile warts, papillomata and other small tumors are successfully destroyed by it. Gunpowder stains and other foreign substances embedded in the skin may be removed by its use. In lupus erythematosus it surpasses all other forms of treatment.

Readers of The Journal who may wish to read further on the subject will find that we have published the following articles, among others:

Tousey, Sinclair: Blotting-Paper Mold for Obtaining Crayons of Carbonic-Acid Ice, The Journal A. M. A., 1910, liv, 1519.

Stelwagon, Henry W.: A Convenient Source of Carbon Dioxid Snow, The Journal A. M. A., 1909, liii, 1205; The Use of Carbon Dioxid Snow in the Treatment of Nevi and Other Lesions of the Skin, The Journal, 1907, xlix, 1354.

Pusey, W. A.: Expensive Molds for Solidified Carbon Dioxid, The Journal A. M. A., 1909, liii, 459.

Hutchins, M. B.: Mold for Carbon Dioxid Snow, The Journal A. M. A., 1909, lii, 786.

Sutton, R. L.: Mold for Carbon Dioxid Snow, The Journal A. M. A., 1909, lii, 464.

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[*For other information see second page following reading matter*]

SATURDAY, JULY 23, 1910

MILK AND DISEASE

That food is the most important immediate means through which bacterial diseases are transmitted to man is becoming more and more evident. Air and water were at first given the chief credit, but it is now believed that they are more frequently intermediate agencies in the spread of such diseases; for bacteria do not multiply rapidly in water, on account of the lack of nourishment, and in the air desiccation and sunlight tend soon to destroy them.

While bacteria in sufficient numbers to produce disease may be ingested with water and taken in with the air, yet undoubtedly the most frequent means of transmission is through food products which have been infected by contact with the air, water, flies, inanimate objects and persons handling them.

Among food products as mediums of bacterial transmission, milk, on account of its physical state as a liquid, and its chemical advantages as a culture medium, occupies a place of first importance. The surface of solid foods under the most favorable conditions would not furnish as good a culture ground for bacteria as milk, and doubtless the digestive juices destroy large numbers of them. But in milk, bacteria multiply with amazing rapidity, the rate, of course, depending on the temperature. The products of milk—butter, cheese and margarin, both fresh and salted—may contain and preserve for considerable periods the tubercle bacillus and various pathogenic bacteria. The milk itself may become infected with the bacillus of bovine tuberculosis either through the blood or lymphatics, from local lesions in or on the udder or from the feces, which latter, in cattle with tuberculosis, have been found to contain large numbers of tubercle bacilli. The list of diseases found to be transmitted through milk is increasing, and in addition to tuberculosis and typhoid fever, we have scarlet fever, diphtheria, possibly measles, and infections such as actinomycosis, anthrax and cowpox, to say nothing of the gastro-enteric infections produced by the colon group and streptococcus infections.

A safe raw milk would be milk from healthy cows, drawn and handled in a cleanly manner by healthy attendants, transported, handled and delivered to the consumer at a temperature not exceeding 50 F., and within the least possible time. Much effective work has been carried on in many parts of the country to obtain legislation which secures a purer milk supply for cities, and the ascertained improvement in general health conditions, and especially in the death-rate of infants and children, is most gratifying, but much yet remains to be done in securing proper supervision and a better understanding on the part of the producers and consumers as to the danger from contaminated milk and the method of avoiding it.

In the production and handling of milk, however, the sources and possibilities of contamination are so numerous that even under the most rigid precautions from producer to consumer, the conditions may never attain the essentials of reasonable safety. In some recent investigations by the laboratory of the United States Public Health and Marine-Hospital Service in Washington, where much work has been done in dairy and milk sanitation, it was found that the bacterial content of samples of milk, some of which were being used in the hospitals, reached in one instance the enormous number of one hundred and eleven million to the cubic centimeter. While not all of these bacteria were pathogenic organisms, it must be admitted that the ingestion of such cultures is liable to produce disease. Therefore, in addition to the enforcement of the production of clean milk by legislation, education and inspection, the safe thing to do is to employ sterilization or pasteurization, not, as has been said, for the purpose of making bad milk good, but to render milk of doubtful wholesomeness safe. Pasteurization is a simple and measurably efficient method of accomplishing this result, and although pasteurized milk may have some disadvantages for younger children, there can be no more objection to heating milk for children on a general diet, and for adults, than to cooking many other forms of food. Pasteurization, to be effective, should be done under proper regulation and inspection, for much of what passes for commercial pasteurization is little better than no treatment at all, in that it leads to a false sense of security on the part of consumers. But until all the conditions for the production and handling of a strictly clean and sanitary milk can be complied with—an enormous task, and one requiring much time to accomplish—proper pasteurization offers without delay and with the least expense a reasonably efficient means of preventing much disease and death. Opposition to this measure by municipalities, as is seen in the case of pending legislation in Chicago, is unfortunate and not based on a correct understanding of the value and necessity of this simple method of lessening or preventing the spread of many bacterial diseases.

SMALLPOX IN THE UNITED STATES

Smallpox has been unusually prevalent in the United States during the past ten years. In the three years 1901 to 1903 the disease reached epidemic proportions; during this time four thousand six hundred and fifty-eight deaths were recorded.[1] In 1902 Massachusetts reported two thousand three hundred and fourteen cases; and in the same year New York probably had no less than nine thousand cases. Trask,[2] who has recently studied the subject, found that there were thirty-five thousand one hundred and seventy-four cases officially recorded in the United States in 1908. The actual number was undoubtedly twice this, or over seventy thousand. Last winter smallpox prevailed to a greater or less extent in almost every state in the Union. So imperfect, however, are the vital statistics in most of our states that we are in ignorance of the actual amount of smallpox occurring. We can only guess whether the disease is on the increase or on the decrease, and it is impossible to trace its spread.

The mortality of a disease like smallpox, which varies greatly in its virulence, gives no estimate of its prevalence. Thus, during the past ten years in this country the smallpox mortality rate has varied at different times and places from less than 1 per cent. to over 30 per cent. While the disease for the most part has been mild and the mortality on the whole comparatively low, yet, as has been observed in all countries during the prevalence of smallpox, or during epidemics, it may flame up in a most virulent form at any time among the unvaccinated population and result in frightful mortality and lasting and costly morbidity. This country is in no way exempt from such a possibility. It is estimated that at least one-tenth of the population of our country is not vaccinated. This means that there are some eight to nine million people who are fuel for the flames. It seems that with this large number of unprotected people smallpox will be with us for a long time. Costly epidemics should not be allowed to occur by reason of a foolish relaxation of this remarkable preventive measure, and the agitation against it by a few misguided individuals should not prevail against incontrovertible facts and figures.

When we compare the smallpox situation in our land with the superb results obtained in Germany since 1874, through compulsory vaccination and revaccination, we have reason to feel humiliated at the backwardness of our public health forces.

The prevention of smallpox constitutes a public health problem which is elemental in character. The eradication of this disease is very easy when compared with the difficulties and intricacies of such problems as the stamping out of typhoid fever, or the suppression of tuberculosis.

ACCIDENTAL DEATH IN EPILEPSY

The sixteenth annual report of the Craig Colony for Epileptics at Sonyea, Livingston County, New York, is of more than passing interest because it calls attention to the special necessity for guarding epileptics from accidental death during their seizures. During the existence of the colony there have been 2,732 individuals under treatment with 582 deaths. In spite of this large death-rate the average age at death was over thirty years, though the occurrence of more than half the deaths between fifteen and twenty-nine and the largest number of deaths at nineteen, shows that the expectation of life is materially shortened in epilepsy. This, however, is not (as would ordinarily be thought) so largely due to the disease as it is to the number of sudden deaths from accidents of various kinds that occur during the attack. Altogether there were ninety-nine sudden deaths, more than one-sixth of all the fatal cases. Attention is called to the fact that this is the most serious danger for the epileptic and that the death-rate would be very materially reduced and the expectation of life in these patients brought up very nearly to normal if these accidents could be guarded against.

The death within the year of Miss Jean Clemens as the result of drowning in a bath-tub during an epileptic fit, which proved the last straw of misfortune for her distinguished father, is a typical instance of these cases. The Craig Colony report adds stories with regard to patients falling in their attacks with their throats across a wire or other edge, or in which the patients during the attack have rolled on their faces during the rigid phase, burying their mouths and nostrils deep in soft pillows with resulting suffocation. It is probable that many of these fatalities could be avoided if their danger were more definitely realized and more generally kept in mind. The fact that they occur at Craig Colony, in spite of the thorough appreciation of the danger, shows that not all of them can be prevented, but certainly many of them might be. Even so simple a precaution as a hair pillow instead of one of feathers would probably save a certain number of lives every year. The precaution of having some one in attendance whenever an epileptic takes a bath, especially in a large tub, would save some. This practice should be carried out even when there are long intervals between the attacks. It is troublesome, but every year some fatalities call attention to its necessity.

With the increase of intelligent care for epileptics, especially the simple life which has been proved so beneficial in the colony system, and which of course can be applied in private life where patients are able to afford it, even better than in institutions, the length of life of epileptics, their usefulness to themselves and their possibilities of happiness are much enhanced. The question, therefore, of the prevention of accidental death becomes more and more important. Not very long ago, when such patients died suddenly, there was a feeling that after all it was best for them, since they could not look forward to any usefulness or happiness; and while this feeling did not foster actual neglect, it did somewhat lessen the vigilance exercised over the epileptic. Now all this has been changed; and so the question of accidental death in epilepsy must be before every physician's mind who has epileptic patients under his charge. The danger must be carefully impressed on those who are in close relations to patients in order to secure just as many precautions as possible against such an unfortunate occurrence.

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[1] These figures are taken from the Public Health Reports of the U. S. Public Health and Marine-Hospital Service.

[2] Trask, John W.: Smallpox in the United States, Am. Jour. Pub. Hyg., February, 1910, xx, 133.

Current Comment

PRESS COMMENTS ON THE REPORT OF THE CARNEGIE FOUNDATION

Any movement directed toward the securing of better-trained physicians will usually meet with public approval. Hence it is not surprising that almost universally the newspapers have made favorable comment on the report on medical education recently issued by the Carnegie Foundation for the Advancement of Teaching.[1] Some of the few adverse comments still show concern for the "poor boy who wants to study medicine" and for the "sparsely settled country districts," which, according to the argument, would be without physicians if fair educational standards were maintained. That even the country districts have no reason to be alarmed regarding physicians is shown by the Knoxville (Tenn.) *Sentinel*:

> The more compact settlement of the country, the spread of good roads, the telephone and the automobile will in time make it possible for the distant farmer to summon from the city, doctors learned in all the lore of the German, the Austrian, the French and of the American universities. When that time comes doctors will have to seek the best schools or risk having no patients. Even now unnecessary multiplication of medical schools should be avoided and many of those in existence might be merged with advantage to all concerned, except the doctors who get valued advertising from their position as teachers.

As to the "poor boy" argument, the Omaha *Bee* says:

> It is not narrowing the lines of opportunity to the poor but ambitious young man and woman to reduce the number of medical schools by raising the standard of efficiency. There are always ample opportunities for those who make good in medicine as elsewhere and for the physician who has the making of success the best medical school preparation is none too good.

That the profession is at present overcrowded and that higher standards of medical education and licensure are needed are recognized in the following from the El Paso (Tex.) *News:*

> It is extremely deplorable that so many doctors and lawyers are every year turned loose on the public; many of whom are utterly unfit to render the service demanded of them. The efficiency and capableness of both doctors and lawyers depend on the standard of the schools from which they graduate. And the standard of the schools, law or medical, depends in many instances on the regulations prescribed by the state laws. Where the state does not require a very high standard of efficiency and is willing to grant licenses on a mediocre basis, schools of inferior rank are bound to spring into existence and it is from such schools as these that hundreds of badly and improperly trained doctors and lawyers are annually turned out.

Regarding the statement that higher standards will tend to reduce the number of physicians to fewer but better prepared men, the New York *Times* says:

> On the face of it, a plan to restrict the physician's career may seem a wrong one to those seeking to enter it, may savor of the denial of the individual freedom to which we Americans are devoted—and addicted. But there will remain complete liberty for the more competent, and that the competent only shall be allowed to practice is one of the plain, universal, unalienable rights of the whole community.

The New York *Globe* draws a pointed comparison between the St. Louis college which brought suit for damages against the Foundation for publishing its shortcomings and the action taken by an Iowa college which did not raise a cry of "slander" but began an energetic campaign whereby sufficient funds were obtained to put it on the right basis. Regarding the continuance of low standards it also adds:

> If the doors of the state university, rich in educational opportunities, qualified to turn out real doctors, lawyers, engineers, and the like, are open to all, why should the manufacture of feebly qualified professional men or other be tolerated at all?

Although there may be statements of detail which might be criticized in the Foundation's report, generally speaking the statements made are recognized as the truth by those who are in position to judge. While the truth sometimes hurts, nevertheless any presentation of the actual facts cannot result otherwise than in good to the cause of medical education. The need of improvement has long been recognized by the majority of medical colleges, and these schools, rather than decry the Foundation's criticisms, will earnestly endeavor to correct their faults and thereby obtain real benefit from the Foundation's investigation.

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[1] This report should be read by every physician. While it is a book of 346 pages, it may be obtained by merely sending 17 cents for postage to the Carnegie Foundation, 576 Fifth Ave., New York City.

SCARLET RED FOR ULCERS

In 1906 Fischer,[1] of Bonn, observed that the subcutaneous injection of scarlet red in olive oil was followed not only by an inflammatory reaction but also by an active multiplication of the epithelial cells of the skin. By this means such marked overgrowth of epithelium occurred that the microscopic picture of carcinoma was closely simulated. These experimental lesions, however, differed from true carcinoma in that they retrogressed and degenerated after the injections were stopped, and never formed metastatic growths. Because of these facts, he suggested that scarlet red might be used therapeutically. H. F. Helmholz[2] in the following year confirmed Fischer's experiment. But it was not until Schmieden's[3] research that any results from a therapeutic use of the drug were recorded. At his hands marked improvement was found to occur in the healing of old ulcers. Later reports by others were equally enthusiastic. Last year Davis[4] reported the results obtained by him in the treat-

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1. München. med. Wchnschr., 1906, liii, 2041.
2. Bull. Johns Hopkins Hosp., 1907, xviii, 365.
3. Centralbl. f. Chir., 1908, xxxv, 153.
4. Bull. Johns Hopkins Hosp., xx, 176.

ment of about sixty cases of various sorts of ulcers. His conclusions are that in general the time of healing and epitheliation is greatly shortened by the use of scarlet red and that "the stability, thickness and normal appearance of the healing" are noteworthy.

UNTRUE AND MISLEADING ADVERTISEMENTS

The State of New York has a law that prohibits the publishing of "untrue and misleading advertisements." Few people are aware of its existence, but the other day Assistant District Attorney Moscowitz of New York City resurrected it to good effect. A dealer advertised that he had purchased several thousand raincoats at a "customs seizure" and was going to sell them at marvelously low prices. The deputy collector of the port swore that no such seizure had been made. Hence the arrest and arraignment of the dealer. Now that the ball has been set rolling, the possibilities of this resuscitated law seem great. For instance, the Dr. A. C. Sanden Company advertises in the New York papers the wonderful virtues of its "health belt." A man wearing this device "cannot grow old; he must be young forever." Would this come in the "untrue and misleading" class? In another New York paper of the same date we are told of the "miraculous cures of cataract," in fact, of "all eye diseases," which the "Magic Eye Lotion" brings about! Can this be "untrue and misleading?" And, in another line of activity, we are told through a New York paper that the "bland qualities" of "White Rock" "make high-balls harmless." Either this is "untrue and misleading" or physiologic chemistry needs revising. These are but a few to start with, but the field is broad and there is no lack of material to work on.

AUTOMOBILES AND THE BIRTH-RATE

Mr. E. T. Fairchild, who has taken the school census for the present year in Kansas, says that since the appearance of the automobile in rural circles the number of births has decreased. We doubt whether this reasoning will hold, although we do not question the coincidence. By the same token, droughts, grasshoppers and mortgages must have had a stimulating effect on the birth-rate in the prairie state. The decreasing birth-rate and the increase of the farmer's bank account are alike caused by the growing wealth of the farmer and the changed standards of living as a result. The automobile should not be held responsible for the relative absence of babies, although it has probably served as a substitute in many cases.

ALLOPATHY A MEANINGLESS TERM

On another page a correspondent protests against a statement regarding the use of the term "allopathy" contained in the Chapter on Sects in the Flexner Report, an abstract of which we published two weeks ago. Mr. Flexner's article was reprinted, not only for its able discussion of the problem of medical sectarianism, but quite as much because it presented the subject from the standpoint of the layman. It does not necessarily follow that THE JOURNAL endorses all that was contained in the chapter. Webster defines "allopathy" as "that system of medical practice which aims to combat disease by the use of remedies which produce effects different from those produced by the special disease treated—a term invented by Hahnemann to distinguish the ordinary practice as opposed to homeopathy." If this definition means what it says, then there are very few allopaths, for we doubt if any physician administers or has administered remedies in accordance with any such theory. The term is a meaningless one and is disclaimed by all physicians, not only because it is meaningless but because the true scientific physician belongs to no school and to no sect; he bases his methods of diagnosis and his treatment on no dogma and on no ism. He is simply a physician, and he neither needs nor desires any adjective to modify the term. On the other hand, the word "regular" is equally objectionable to the sectarians, and naturally so since its use, by inference, classes them as "irregulars." Whatever sectarian distinctions exist, however, have been created by the sectarians themselves, and, with the exception of those who proclaim themselves the followers of some special creed or prophet, the term "physician" is amply descriptive and distinctive.

Medical News

COLORADO

Personal.—Dr. Alexius M. Forster, Baltimore, has purchased Cragmoor Sanitarium, near Colorado Springs, for $50,000. A large sum will be spent in renovating and improving the place. ——Dr. Joseph E. Peairs, city health commissioner of Pueblo, has resigned to go east for postgraduate work.——Dr. Laura L. Liebhardt, Denver, has gone to Europe for a year's study. ——Dr. Charles B. James, county physician at Denver, has been succeeded by Dr. Allen, South Denver.——Dr. Marion S. Middlekamp has been appointed county physician at Pueblo, vice Dr. William H. Campbell, resigned, and Dr. Elmer A. Elder has been appointed health commissioner of the city of Pueblo.

ILLINOIS

Hospital for Ottawa.—By the will of the late S. E. King, Ottawa, $40,000 has been left for a hospital in Ottawa.

Personal.—Dr. Robert S. McCaughey, Hoopeston, is in Germany.——Dr. John W. Huston, Virginia, has gone to Asheville on account of his health.

Chicago

Officers of Surgical Society.—At the last meeting of the Chicago Surgical Society the following officers were elected: President, Dr. Jacob Frank; vice-president, Dr. Charles Davison; secretary, Dr. Frederic A. Besley, and treasurer, Dr. Dean Lewis.

Fresh Air Schools Open.—Fresh air schools for weak or tuberculous children were opened in the north, west and south sides of Chicago July 12 by the board of education in cooperation with philanthropic agencies. No definite course will be given, but instruction will be given the children in hygiene and dietetics. Four meals a day will be furnished the children by the Chicago Permanent School Extension Committee of the Woman's Club, and a physician will be provided by the Tuberculosis Institute.

For Better Health.—The campaign for better health conditions in Chicago includes a permanent milk commission, which will have an appropriation to carry on its investigations and experiments; milk ordinances are to be strengthened, and the transportation of milk is to be looked after more carefully; the making of ice cream is to be supervised; further attention is to be given to the dumping of refuse into the lake; dry sweeping in the down-town section will be reduced to the minimum, and the ten-hour law for women, recently upheld by the supreme court, will be vigorously enforced.

Campaign Against Typhoid.—Chicago, the second largest city in the United States, has the lowest death rate from typhoid fever of any of the large cities in this country, the record being 12 deaths for every 100,000 of population. In order to reduce this figure, a systematic study of typhoid fever in Chicago will be made this season. Dr. Leslie L. Lumsden, passed assistant surgeon U. S. P. H. and M.-H. Service, has been detailed to investigate typhoid in Chicago, in cooperation with the Chicago health authorities. The plan is to make an extensive study of typhoid in as many parts of Chicago as possible. In this work Dr. Lumsden will have the help not only of the health department but of the Visiting Nurse Association and other organizations. The medical inspectors and laboratory of the health department will report typhoid directly to Dr. Lumsden. The cooperation of physicians is also requested. It is desired that physicians shall report the termination of all cases of typhoid, giving date of recovery, in order that examination may be made to determine if the patient is safe. Nurses and inspectors will visit each case to inquire into the measures employed for the safeguarding of the community. This is only for supervision, and will leave to the physician in attendance every detail of the treatment. Blood examinations and blood cultures will be made in the laboratory, in which work it will be assisted by Prof. Jordan, of the University of Chicago. Dr. Lumsden has had wide experience in the investigation of typhoid outbreaks in numerous points throughout the country, and it is hoped to make the record of Chicago equal to that of European cities like Berlin, Vienna and Rotterdam, where the average is between three and six deaths for each 100,000.

INDIANA

Tuberculosis Colony Reopened.—The Indianapolis city council has voted a fund for the maintenance of the City Tuberculosis Colony which was closed recently because of lack of funds.

Children's Dispensary.—The Children's Medical Dispensary was opened on July 5, at 1325 West Division Street, Indianapolis. The work of the dispensary is to be largely educational. Milk will be supplied for babies and advice given to mothers in regard to infant feeding.

Meeting of Alumni Association.—At the meeting of the Alumni Association of the Indiana University School of Medicine, Dr. Alfred Stengel, Philadelphia, was the guest of honor. Dr. Norman E. Jobes, Indianapolis, was elected president, and Dr. Benjamin P. Weaver, Fort Wayne, secretary.

District Meeting.—At the meeting of the Third Councilor District Medical Association, held at New Albany, the following officers were elected: President, Dr. James B. Duncan, Bedford; vice-president, Dr. James P. Salb, Jasper, and secretary, Dr. Isaac N. Ruddell, Jeffersonville. Dr. Joseph M. Matthews, Louisville, was the chief speaker of the meeting.

Personal.—Dr. William Palm, Harmony, has been appointed physician of the Orphans' Home at Knightsville.——Dr. Edward J. Dubois, Indianapolis, has been appointed bacteriologist and pathologist of the city laboratory.——Dr. Orange G. Pfaff, Indianapolis, was seriously injured in an automobile accident at Little Falls, N. Y.——Dr. William A. Spurgeon, Muncie, and Dr. Moses S. Canfield, Frankfort, have been reappointed by the governor on the State Board of Medical Registration and Examination.——Dr. Frank B. Wynn, Indianapolis, has been appointed chairman of the Civil Improvement Commission.

KENTUCKY

Physicians Graduate.—At the commencement exercises of the Medical Department of the University of Louisville, June 30, 202 physicians were given diplomas.

Personal.—Dr. Louis H. Mulligan, for a number of years superintendent of the Central Kentucky Asylum for the Insane, Lakeland, has resigned. Dr. William E. Gardner, who was first assistant under Dr. Mulligan, succeeds him.——Dr. Lewis Ryans, Louisville, has been appointed United States marshal for the district of Kentucky.——Dr. Joseph L. Barr, physician at the Frankfort penitentiary, has resigned and has been succeeded by Dr. Elijah H. Maggard, Ashland.——Dr. John A. Watkins, physician at the Eddyville penitentiary, has become assistant physician at the Hopkinsville asylum. He was succeeded by Dr. Richard H. Moss, Hodgenville.——Dr. Edward R. Pennington, Owensboro, has been appointed coroner of Daviess County.

LOUISIANA

Personal.—Dr. Marion S. Souchon, demonstrator in anatomy at Tulane University, has resigned, as have also Dr. J. Frank Points, assistant demonstrator in anatomy, and Dr. Israel S. Kleiner, instructor in chemistry.——Dr. and Mrs. Otto Jackson, New Orleans, are in Europe.

Panama Exposition.—At the meeting of the State Medical Society in May a resolution was adopted approving of the plan of holding a world's Panama exposition at New Orleans in 1915, and expressing the belief that a proper impetus would be given thereby to matters of sanitation.

For Fraudulent Use of the Mails.—Dr. Roland Register, Dr. Alexander S. Dyar and Dr. W. H. Hale, New Orleans, have been found guilty of using the mails to defraud, in sending out circulars making false claims and guarantees of cures, and have been sentenced to the federal prison at Atlanta and given large fines.

Tulane Medical School.—The Medical School of Tulane University has inaugurated a summer medical school. It opened in May with over twenty matriculates. Harvard and the University of Michigan are the only other big colleges in the country that have summer schools of medicine. A considerable part of the work of the school relates to the subjects and courses covered in the regular curriculum, and is intended for the purpose of review. There is also offered advanced work, including research work for students and physicians. The course will be extended and lengthened hereafter. The medical alumni of Tulane residing in Arkansas met May 4 and organized a state association, and on May 11 they organized a similar association in Texas. During the life of the medical department, more than 4,600 physicians have been turned out by Tulane.——The alumni of Tulane held its annual reunion in St. Louis during the meeting of the American Medical Association, and a banquet was held at the Hotel Jefferson. Dr. Robert B. Bean, recently connected with the School of Medicine of Manila, P. I., has been elected associate professor of anatomy in place of Dr. H. W. Stiles, who has accepted a professorship in anatomy in Syracuse University.

MARYLAND

Fahrney Reunion.—The Fahrney family annual reunion of several hundred descendants of Dr. Peter Fahrney, a picturesque character of Washington County, Maryland, will be held at Mapleville, Md., July 30. The membership extends over several states.

Baltimore

Warren Prize Awarded.—The Warren triennial prize for 1910, consisting of $500, has been awarded to Dr. George H. Whipple, Johns Hopkins Hospital, for his essay entitled "The Pathogenesis of Icterus."

To Assist Commission.—Mr. Alex. A. Wilson, head of the Phipps Institute, Philadelphia, has been appointed by the municipal tuberculosis commission to assist in its investigation. He will spend three days each week here until his report is completed. Mr. Wilson has done important work in Boston and Chicago.

Floating Hospital Advocated.—Dr. R. Martin Burns advocates the founding of a floating hospital for babies. He urges the chartering of two steamers accommodating 600 children, with operating room on each, under a physician and surgeon, and a staff of young physicians and nurses. They should be anchored down the bay and should accommodate children, both white and colored, up to 5 years of age.

Library Bequest to Dr. Welch.—Major Richard M. Venable, who died June 10, bequeathed his library to Dr. William H. Welch. He was a great reader and in his will he says: "In this library will be found quite a collection of books on religious and theologic subjects. These and the notes on them by me represent a protracted struggle for the light." Dr. Welch is also left $100 to purchase some memento of the deceased.

New Hospitals.—Building operations on the Phipps psychiatric clinic at Johns Hopkins Hospital begin this week. Mr. Phipps gave $1,000,000 and the building will cost $750,000 or more. It will be 175 by 110 feet and will require about eighteen months to complete. The Pittsburg Building Company have the contract. It will be a five-story brick structure.——The Harriet Lane Johnson Hospital for Children is approaching completion.

Medical School Opened to Women.—The faculty of the Maryland Medical College announce that with the coming session the doors of that institution will be opened to women. The instruction for the first and second year students will hereafter be given in the evening. At a meeting of the faculty and alumni, July 12, a "clinical society" was organized, which will meet on the second Tuesday of each month. The following are the officers: President, Dr. A. E. Grempler; vice-president, Dr. J. G. Selby; secretary-treasurer, Dr. James A. Guff.

Personal.—Dr. J. F. Hawkins was operated on for appendicitis at University Hospital July 13.——Dr. John M. Bergland has gone to Biddeford Pool, Me., as resident physician.——Dr. John R. Winslow left July 16 for a summer in Germany and Holland.——Dr. Andrew H. Whitridge sailed for Europe July 16.——Dr. John T. King sailed for Naples July 16.——Dr. G. Halsted Boyland, who has lived in Europe several years, is visiting Baltimore.——Dr. Roland B. Whitridge is traveling in Spain.——Dr. R. Y. McLeod, a confederate veteran, of Sumter, S. C., is at the Johns Hopkins Hospital for treatment of wounds received during the civil war.——Dr. William J. Messick was elected treasurer of the Delaware Society of Maryland.

Standards for Ice Cream.—Dr. Charles Caspari, Jr., pure food and drug commissioner, is the official judge of ice cream in Maryland. He has divided it into three kinds—plain, fruit and nut. He demands that there shall be 4 per cent. of butter fat in the first two and 6 per cent. in the last. In none must there be more than 1 per cent. of gelatin, which is used by manufacturers to give it firmness. He is providing labels which manufacturers are to put on the outside of the containing vessels. These give the exact amount of the substances used and when the article was packed. A corps of assistants will see that the law is enforced. Violations are punishable with a fine of $500 or imprisonment for a year, or both.

MICHIGAN

New Home of Wayne County Association.—The property at 33 High Street, East, Detroit, has been purchased by the Wayne County Medical Association. The building will be remodeled for a meeting-place and club house. It will be fitted up with a large auditorium, a library and a clinical laboratory.

Antituberculosis Dispensary.—The offices and headquarters of the Houghton County Antituberculosis Society have been moved to Calumet. One of the first acts of the society will be to open a free dispensary in connection with the new headquarters, in charge of Miss Ehlert, the society's visiting nurse.

Personal.—Dr. Ellsworth Orton, health officer of Pontiac, has resigned.——Drs. William P. Melody and D. E. Binning have been appointed city physicians of Detroit by the poor commission.——Dr. Arthur M. Hume, Owosso, has been appointed chief surgeon of the Ann Arbor Railroad to succeed Dr. Louis L. Syman of Toledo, who resigned.——Dr. Jacob W. Rothacker, a former city physician of Detroit, has been appointed coroner to succeed the late Dr. John F. Bennett.——Dr. M. Maywood Sears, Kalamazoo, was seriously injured by jumping from his automobile to avoid a collision with a train: ——Dr. Beverly D. Harison, Detroit, has received the degree of A.M. from the University of Michigan.——Dr. Freeman A. Jones, Lansing, has been reappointed city physician.

College Commencement.—At the forty-second annual commencement of the Detroit College of Medicine, thirty-seven physicians were graduated. Chase S. Osborn, Sault Ste. Marie, made the principal address to the graduating class. He suggested that the practice of medicine, especially scientific hygiene and sanitation, should be placed on a public basis. Local, state and government health departments are doing much but not enough. The public must be awakened along every line. The annual banquet was held at the Hotel Cadillac. Dr. John N. Bell acted as toastmaster.——At the annual meeting of the alumni, 330 members registered. Dr. Gilbert J. Anderson, Detroit, was elected president; Dr. William T. Henderson, Mobile, Ala., vice-president; Dr. Frederick G. Buesser, Detroit, secretary (reelected), and Dr. J. H. Dempster, historian of the alumni association.——According to the president, Dr. Richard E. Mercer, there is no possibility of a merger of the Detroit College of Medicine with the University of Michigan, as has been rumored.

MINNESOTA

Personal.—Dr. Herbert G. Lampson, Minneapolis, has been appointed to the faculty of the Medical Department of the University of Minnesota.——Drs. Joseph B. Budd, Two Harbors, and Charles P. Robbins, Winona, have gone to Europe, the latter for a year's study.

Society Meetings.—The forty-second annual meeting of Wabasha County Medical Society was held at Millville July 7. The following officers were elected: President, Dr. Ernest A. French, Plainview; vice-president, Dr. M. J. Shaughnessy, Wabasha; secretary-treasurer, Dr. William F. Wilson, Lake City; delegate, Dr. William J. Cochrane, Lake City; alternate, Dr. Emery H. Bayley, and censor, Dr. Jesse A. Slocumb, Plainview.——The Southern Minnesota Medical Association will meet in Winona August 4. An interesting program has been prepared.

Changes in Faculty.—The following changes have been announced in the University of Minnesota College of Medicine and Surgery: Dr. Frederick A. Dunsmoor, formerly professor of clinical and operative surgery, has been made professor of clinical surgery, and Dr. Herman A. Bouman, clinical instructor in surgery. The following clinical instructors have been made assistant professors: Dr. Frank E. Burch, in ophthalmology and otology; Dr. Elmer H. Parker, in rhinology and laryngology; Dr. J. H. Hewitt, demonstrator in pathology and bacteriology, and Dr. Olaf A. Olson, clinical instructor in surgery.

MISSOURI

Personal.—Dr. Isaac E. Hill has been appointed pension examining surgeon at Hannibal to succeed Dr. Richard Schmidt, resigned.——Dr. Milton P. Shy, Knobnoster, has been appointed surgeon of the M., K. & T. Railroad, vice Dr. McNeil, resigned on account of ill health.

Milk Commission Named.—Dr. Charles R. Woodson, president of the St. Joseph-Buchanan-Andrew County Medical Society, has appointed a milk commission for St. Joseph, consisting of Drs. John M. Bell, Oliver C. Gebhart, Emmett S. Ballard and Clarence A. Good. The commission will inspect and examine milk furnished for sale in St. Joseph, and pay particular attention to methods employed at dairies and endeavor to improve the sanitary conditions which surround the preparation of milk for the market. The commission will work in connection with the medical society for this cause.

St. Louis

Traveling Tuberculosis Exhibit.—The Missouri Association for the Relief and Control of Tuberculosis has arranged for a traveling tuberculosis exhibit occupying two cars. The trip began July 20, and will be in charge of Dr. James Stewart, medical adviser of the board of education, who will deliver lectures in all towns visited, assisted by local physicians in each place. The whole trip will consume nine months and practically every town in the state will be visited.

Staff Appointments Announced.—St. Louis University has announced the following staff appointments at Alexian Brothers' Hospital for the ensuing year: Dr. Charles H. Neilson, visiting physician, chief of staff; Dr. Ralph L. Thompson, pathologist; Dr. William W. Graves, neurologist; Dr. Carroll Smith, surgeon; Dr. Harvey S. McKay, surgeon; Dr. John W. Marchildon, physician genito-urinary department; Dr. Clarence Loeb, oculist; Dr. William M. C. Bryan, laryngologist.

Personal.—Dr. Michel Hanna has received appointment as physician to the government board of health at Zagazig, Egypt. He is a graduate of St. Louis University.——Dr. Floyd Stewart has been reappointed surgeon-general of the United Sons of Confederate Veterans.——Dr. Guthrie McConnell has been offered the position of assistant professor of pathology in the University of California, Berkeley.——Dr. H. O'Hara May, of the medical corps of the British government, of the Gold Coast, West Africa, who is making a trip through the United States, is spending some time in St. Louis.

New Medical Instructors.—Dr. Frederick A. Baldwin, Dallas, Texas, who was assistant bacteriologist and pathologist of St. Louis during the World's Fair, has accepted the chair of pathology and clinical medicine at the American Medical College.——The trustees elected Dr. Thomas G. Atkinson, until recently professor of nervous diseases in the Chicago College of Medicine and Surgery, to the chair of neurology, and George M. Heath, instructor in pharmacy and chemistry in the University of Michigan, has been elected professor of physics and physiologic chemistry. The new instructors will assume their duties September 6.

NEW JERSEY

State Society Meeting.—At the meeting of the State Medical Society at the Chalfonte, Atlantic City, June 30, the following officers were elected: President, Thomas H. Mackenzie, Trenton; vice-presidents, Daniel Strock, Camden; Norton L. Wilson, Elizabeth; Enoch Hollingshead, Pemberton, corresponding secretary, Harry A. Stout, Wenonah; recording secretary, William J. Chandler, South Orange; treasurer, Archibald Mercer, Newark. A report of the proceedings will appear in THE JOURNAL.

State Pediatric Society.—The first annual meeting of this society was held in the Hotel Chalfonte, Atlantic City, June 27, 1910, the president, Dr. H. L. Coit, presiding. The attendance was large. The officers were: President, Dr. Henry

L. Coit, Newark; vice-president, Dr. Alexander McAlister, Camden; treasurer, Dr. B. Van D. Hedges, Plainfield; secretary, Dr. M. J. Synnott, Montclair; council, Drs. J. Finley Bell, Englewood; Thomas N. Gray, East Orange; Burdette P. Craig, Jersey City; Emery Marvel, Atlantic City, and F. H. Glazebrook, Morristown. After the evening session a reception was held by the president and Mrs. Coit for the members, their families and friends.

State Board Meeting.—The State Board of Medical Examiners met at Trenton, July 7, and elected the following officers for the ensuing year: Dr. William K. Watson, Jersey City, president; Dr. Horace G. Norton, Trenton, secretary, and Dr. Armin Vebelacker, Morristown, treasurer. The committee on legislation comprises Dr. Richard Barrington, Mount Holly, chairman; Dr. Charles E. Groves, Orange, and Dr. William Borden, Passaic. The board discussed the action of the New York board which had cancelled reciprocity relations with New Jersey because the latter had not adhered to the desired requirements as to preliminary education. (See New York news, this issue.) The New York board has been asked to reconsider its action. Unless this is done New Jersey threatens to refuse indorsement to New York applicants.

NEW YORK

Personal.—Dr. William A. Howe, of Phelps, has been appointed deputy commissioner of health, a position created by the last legislature.——Dr. and Mrs. Alfred W. Hoyt, of New Rochelle, have gone to Europe.

Scarlet Fever Epidemic.—It has become necessary to close the Pelham summer home which has been conducted for the benefit of poor children of New York City, because of an epidemic of scarlet fever in that institution.

Speaks for National Health Department.—Dr. Harvey W. Wiley delivered an address to several thousand persons at Chautauqua, July 15, where he spoke enthusiastically for a national health department and pointed out what it would do for the safeguarding of the public health.

Inoculations Against Typhoid.—The officers and men stationed at Fort Wadsworth, New York harbor, have been inoculated against typhoid. This is the first of a series of experiments in the United States army similar to those which proved eminently successful among the British troops during the Boer war.

Laboratory Course for Health Officers.—During the month of July the State Hygienic Laboratory has conducted two courses for the benefit of the health officers of the state. July 11 to 14 the course was on general and clinical microbiology, July 13 to 16 on sanitary water analysis. Each person was provided with a working table, microscope, material and all accessories. The course was practical and largely attended.

Reciprocal Relations Discontinued.—It is reported that reciprocal relations with New Jersey have been discontinued by the New York board of regents. This was said to be due to a recent decision by the governor and the attorney-general of New Jersey that a student did not need to have a high school training as a prerequisite to the study of medicine, but that he might be permitted to complete such secondary education up to within ten days of his examination for license. New York, on the other hand, requires that all conditions in high school work must be made up before the beginning of the sophomore year in medicine.

New Hospitals and Dispensaries.—The State Board of Charities at its quarterly meeting refused to issue a license for the conduct of a dispensary in New York City by the New York Osteopathic Clinic of Manhattan.——Applications for approval of certificates of incorporation were denied the Emmanuel Hospital of Brooklyn and the Zion Hospital and Dispensary.——Plans were approved for the proposed tuberculosis hospital to be erected in connection with the Cattaraugus Almshouse at Machias, and also plans for the erection of new buildings on the cottage plan by the Hebrew Sheltering Guardian Society of New York, at Pleasantville, and for alterations of the buildings of the German Hospital and Dispensary of Brooklyn.

Vital Statistics in May.—There were in this state 16,760 births and 11,901 deaths for the month of May, of which 888 were from epidemic diseases, 1,234 from consumption, 213 from other forms of tuberculosis, 1,829 from other diseases of the respiratory system, 400 from diarrheal diseases and 739 from accidents and violence. In the five months of this year there have been 267 cases of smallpox, against 285 for the same months of last year. The urban rate of mortality for the month is 28 per 100,000 of population and the rural 11, the average urban mortality for this month being 21.4 and the average rural being 8.4. Thus far this year there have been 325 more deaths from scarlet fever and 100 more from diphtheria than there were during the same period of 1909. It was interesting to note that influenza was especially a rural disease; the actual number of reported deaths in the cities was 529 to 650 in the rural districts for six months from December 1 to June 1. This disease reached its highest mortality in March, when there were 1,400 deaths from this cause. At this same time the highest point of mortality was reached by other pulmonary diseases and by diseases of the nervous system, the digestive system and Bright's disease, suggesting the inference that influenza was a factor in increasing their fatality.

New York City

Crocker Fund in Hand.—By the sale of the estate of the late George Crocker, Columbia University has come into possession of a fund of $1,500,000 provided for in the will of the late millionaire to fight cancer, mention of which has been made before in The Journal.

Personal.—Dr. Walter Guernsey Frey has been appointed a medical officer of the fire department.——Dr. and Mrs. A. M. Shrady and Dr. Walter Lester Carr have sailed for Europe.——Thomas Andrew Storey, M.D., Ph.D., hitherto associate professor and director of the department of physical instruction and training in the College of the City of New York, has been made a full professor and the departmental name changed to physical instruction and hygiene.

Society Organized.—The Society for Clinical Serology was organized at the Mt. Sinai Hospital in New York City on May 9, 1910, when the following officers were elected: Dr. David J. Kaliski, president; Dr. Howard Fox, vice-president; Dr. Walter J. Heimann, treasurer; Dr. Mortimer Warren, secretary, 39 East Twenty-Seventh Street. The object of the society is the cultivation of serological methods as applied to clinical medicine. Meetings will be held on the second Friday in October, December, February and April. The society is making an effort to effect a standardization of material used in the Wassermann reaction in order to bring about uniformity of results.

Hoffman Island Hospital.—The new hospital on Hoffman Island for the accommodation of contagious diseases coming into the port of New York was opened for inspection July 3. The hospital can accommodate 250 patients and can also provide for relatives and friends of the patients. In connection with the hospital there will be a school for instruction in communicable diseases. Two health officers from different parts of the state will be assigned to the hospital every four days for the study of the latest and best methods of treating and combating contagious diseases. A permanent group of state officers will be maintained to carry on the work of instruction, and also a training school for nurses.

Hospital Bequests.—The will of Henry Dexter, president of the American News Company, leaves over $1,000,000 to charity; among these bequests the Society for the Suppression of Vice receives $30,000; the Association for Improving the Condition of the Poor, $20,000; St. John's Guild, $10,000; Charity Organization Society, $10,000; St. Luke's Hospital, $100.——The will of Mrs. Margaret A. Bromley leaves $3,000 to the Mothers' and Babies' Hospital.——The will of Mrs. Margaret M. Coakley leaves $500 to St. Joseph's Hospital for Consumptives and a like amount to the Cancer Hospital at Hawthorne.——The annual patriotic celebration of the French Benevolent Society netted $2,000 for the French Hospital.

Infant Mortality in New York and Brooklyn.—For several years physicians and social workers have been at a loss to account for the fact that the infant mortality of Brooklyn has been considerably higher than that of New York. Dr. Lederle has appointed a special committee to investigate this matter. Brooklyn physicians were of the opinion that the widespread use of condensed milk might account to some extent for the prevalence of intestinal troubles. There is a much better observance of sanitary laws in the crowded sections of Manhattan than in those of Brooklyn. The number of children in Manhattan suffering from diarrheal diseases has been much smaller during the recent hot spells than in similar weather in former years. This is attributed to the more general instruction of tenement mothers.

PENNSYLVANIA

Epidemic Ended.—The Columbia Board of Health announced that the scarlet fever epidemic is at an end and that Columbia is almost entirely free from communicable diseases.

Infantile Palsy at Bethlehem.—State Health Commissioner Samuel G. Dixon has ordered an investigation into the reported existence of infantile palsy in Bethlehem and vicinity. Two well defined cases are understood to have appeared in that portion of the Lehigh Valley.

School Inspection.—Through the efforts of Dr. Henry H. Herbst, the city of Allentown has made an appropriation for medical inspection of school children. A superficial examination of the 18,000 pupils shows that 10 per cent. are suffering from defective vision; 6 per cent. from defective hearing; 19 per cent. from defective teeth; 10 per cent. from defective breathing, and over 6,000 pupils are above normal age for their grade.

Health Department and Rural Physician.—Dr. Samuel G. Dixon addressed the McKeesport Academy of Medicine July 15 and described how Pennsylvania, through its department of health, is cooperating with the family physician, especially the rural practitioner, who is cut off from urban advantages. "Pennsylvania has come to the aid of the medical profession in its daily work," said Dr. Dixon, "to a greater degree than any other state in the Union, and possibly indeed, than any country in the world."

Personal.—Dr. C. F. Bingaman has returned to Pittsburg after spending several months in touring around the world. ——Dr. J. King Love, Easton, is in Europe.——Drs. L. C. Mundy, Wilkes-Barre; H. H. Walker, Linesville, and Gibbs Biscoe, of Arkansas, have completed their service in the Altoona Hospital, and their places will be supplied by Drs. H. L. McCarthy, Altoona; Logan E. Hull, New Florence, and H. F. Schrader, St. Paul, Minn.——Dr. Charles H. Schlesman, Allentown, has gone to Europe for study.

Resolutions Supporting Dr. Guth.—At the regular meeting of the Warren County Medical Society, July 12, resolutions were adopted expressing the surprise and grief of the members at the dismissal of Dr. Morris S. Guth as superintendent of the state insane hospital at Warren. The resolutions state that Dr. Guth was connected with the institution since its foundation, and because of his high character, his great ability as a physician and alienist and because of his efficiency as a manager it was felt that the trustees, in taking this action, had committed a grave error, and that it would require reasons of the strongest kind to convince the society that the change was either necessary or desirable.

Typhoid Epidemic at South Fork.—Until a few days ago there were thirty-three well developed cases of enteric fever reported within a brief period of time at South Fork, near Johnstown. Two sanitary engineers representing the state health department are on the scene and will remain there until the situation is under control. The two large reservoirs were treated with 500 pounds of copperas with the view of destroying the causative pathogenic bacteria. The disinfectant was placed in burlap sacks and trailed behind boats paddled over the surface of the water. The copperas is proportioned 1 to 1,000,000 parts of water. No deaths have as yet occurred and the authorities hope the epidemic can be checked without any loss of life.

Philadelphia

Sane Fourth Reduces Tetanus Mortality.—There has been but one death from tetanus in this city as the result of the Fourth of July celebrations just past. This excellent record is partly the result of the observance of the use in all hospitals of antitetanic serum and the decreased use of explosives and firearms.

Phipps Institute Clinical Staff.—The directors elected the following physicians as members: Drs. H. R. M. Landis, J. D. Blackwood, Jr., T. W. Busch, F. A. Craig, J. M. Cruice, W. T. Cummons, G. Fetterolf, I. Kaufman, C. M. Montgomery, H. J. Off, J. T. Ullom, M. Jacobs and W. Turnbull. These men will have charge of the patients in the wards and of the treatment of the dispensary patients.

New Eye Hospital Opens.—A free non-sectarian hospital and dispensary for the treatment of eye diseases in general, and trachoma in particular, was opened July 18 at 228 Pine Street. It will be known as the Trachoma Institute of Philadelphia. The institute will endeavor to arrange with the immigration authorities of this city for the treatment of immigrants afflicted with trachoma, where there is a prospect of curing them, so as to save them from being deported on that account.

Personals.—Dr. W. W. Hawke, chief resident physician to the insane department of the Philadelphia General Hospital, resigned his position to assume duties as superintendent of the state hospital for the insane at Warren, Pa. Dr. J. Allen Jackson, of the Central Indiana Hospital for the Insane at Indianapolis, was appointed to succeed Dr. Hawke.——Drs. Ernest La Place, John A. Boger and George C. Stout sailed for Europe.——Dr. James Hendrie Lloyd has been elected visiting neurologist to the Methodist Episcopal Hospital.

Proposed Improvements to City Hospital.—Dr. Joseph S. Neff, director of the department of health and charities, in his annual budget of expenditures for the year 1911 asked for an appropriation of $5,000,000. Among the improvements that he recommends are the development of Byberry as the home for the city's insane wards; $300,000 for improvements at the Philadelphia General Hospital; $100,000 for the construction of an annex for the feeble minded at Byberry; $500,000 to complete the hospital for contagious diseases. If the plan for the improvements is approved by councils Philadelphia then will have the most complete institutions of their kind in this country.

Charitable Bequests.—The Supreme Court of Pennsylvania, in a decision rendered recently, sustained the validity of the will of the late Anna T. Jeanes, and the result is that the following bequests are made possible: The incorporated trustees of the Philadelphia Yearly Meeting of Friends, for the establishment and assistance of hospitals and infirmaries, $250,000; joint committee of the Quarterly Meeting House for Aged and Infirm Friends, for the establishment of a hospital for cancerous and nervous ailments, $200,000; the Women's Hospital, $64,000; the West Philadelphia Hospital for Women, $10,000; Hahnemann Hospital, $10,000; the Philadelphia Home for Incurables, $10,000; the Women's Homeopathic Hospital, $10,000; the Pennsylvania Hospital, $10,000; the Red Banks Sanitarium, $5,000.

GENERAL NEWS

Tri-State Meeting.—The Tri-State Medical Association, comprising Indiana, Ohio and Michigan, under the presidency of Dr. Charles B. G. De Nancrede, Ann Arbor, met at Elkhart, Ind., July 12. Dr. Victor C. Vaughan, Ann Arbor, delivered the principal address, on "Tuberculosis."

American Public Health Association to Meet.—The American Public Health Association will hold its thirty-eighth annual meeting in Milwaukee, Wis., September 5 to 9. The association will discuss methods for the correlation of the work of various public health organizations which have been invited, and for cooperation with a view to increasing efficiency and economy. Sanitary engineering will occupy a conspicuous place on the program. Information concerning the meeting can be obtained by addressing Dr. William C. Woodward, secretary, Washington, D. C.

Tracing Tuberculosis in Cattle.—In 1908 government veterinary inspectors found 706,046 tuberculous hogs, an average of 2,000 per day, among hogs that went to packing houses having government inspection. These hogs probably became infected from tuberculous cattle. As a method of tracing to the source this tuberculosis, Burton R. Rogers proposes a plan of requiring all cattle shipped to the markets where government inspection prevails be tagged with a metal tag in the ear giving a number that will indicate what particular farm the cattle came from. In that way the source of the tuberculosis could be traced and tests made and the sources of infection thus eradicated.

Medical Exposition for Centennial.—The department of public instruction of Mexico in connection with the celebration of its centennial has named a committee consisting of Drs. Fernando Zarraga, Regino Gonzales and Alfonso Pruneda, to prepare a medical exposition to be held in the medical school during September, the purpose being to bring together in one place modern surgical instruments and appliances for the benefit of visiting physicians. The committee have sent out circulars soliciting exhibits. The whole collection will be photographed when placed and pictures will be presented to all who apply for them during the centennial month. It is hoped to make the exhibition the nucleus for a permanent national museum.

Medical Library Association.—The thirteenth annual meeting of the Medical Library Association was held in St. Louis June 6. The secretary's recommendation was approved, that the constitution, by-laws and a list of members be printed. The treasurer's report showed a balance from the previous year of $725.81; receipts for the year were $410; total receipts, $1,135.81; expenditures for the year, $1,093.48, leaving a balance on hand of $43.33. The report of the manager of the exchange showed that during the year the material belonging to the exchange moved from Brooklyn to Baltimore, and arranged and listed for distribution consisted of unbound numbers, reprints, etc., 7,707, and bound volumes, 11,919;

The following officers were elected: President, Dr. John H. Musser, Philadelphia; vice-president, Mr. C. Perry Fisher, Philadelphia; secretary, Miss M. R. Charlton, Montreal, Que.; treasurer, Dr. John Ruhrah, Baltimore; executive committee, Drs. John W. Farlow, Boston; Lewis H. Taylor, Wilkes-Barre, Pa., and William Browning, Brooklyn; finance committee, Drs. Frank J. Lutz, St. Louis; Carl E. Black, Jacksonville, Ill.; William S. Halsted, Baltimore; George N. J. Sommer, Trenton, N. J., and Miss M. M. Loomis, Chicago.

FOREIGN

Personal.—Sir William Ramsay has been elected a foreign associate of the Paris Academy of Sciences to fill the vacancy caused by the death of Alexander Agassiz.——The Albert medal of the Royal Society of Arts for this year has been awarded to Madame Curie for the discovery of radium.——Mr. Robert Newstead, lecturer at the Liverpool School of Tropical Medicine, has gone to Malta to investigate the rôle of the sand-fly as a carrier of disease.——The Order of C. M. G. has been conferred on Dr. A. D. P. Hodges, principal medical officer of the Uganda Protectorate, in recognition of his services in suppressing sleeping-sickness.

The Approaching International Congress of Gynecology.—Every effort is being made to have the Fifth International Congress of Obstetrics and Gynecology, which convenes at St. Petersburg, Russia, in September, surpass in attendance and interest all previous meetings of the kind. An exhibition is to be held in connection with the congress and the committee of organization is inviting exhibits from all parts of the world, especially surgical instruments, modern and ancient; objects pertaining to the equipment of laboratories, operating and lying-in rooms, etc.; objects relating to the nursing of new-born infants; plans of obstetrical clinics and gynecologic sections of hospital; objects for the study of midwifery and gynecology; portraits of medical men who have distinguished themselves in the history of midwifery and gynecology; books on gynecology and midwifery; pharmaceutical preparations, etc. Exhibits should be delivered at their destination not later than September 1, addressed as follows: "For the Exhibition in connection with the Fifth International Congress of Obstetrics and Gynecology, No. 3 University Line, Vasilievsky Ostroff, St. Petersburg." The most interesting exhibit, however, probably will be the new model institute for midwifery and gynecology built to realize Professor Ott's ideals. Among the special questions to be considered by the congress are: "Cesarean Section," by Baum, Brandt, Doléris and Routh. "Non-Operative Treatment of Cancer of the Uterus," by Mangiagalli, Betrix and Meyer. "Comparative Value of the Different Procedures in the Treatment of Displacements and Deviations of the Uterus," by Schauta, Westermark and Hofmeier. "The Vaginal Route," by Martin, Jung, Treub and Wertheim. "Influence of the Nervous System in the Origin and Control of Uterine Hemorrhages," by Macnaughton-Jones and others. Registration fee is $5.25. The transactions will be sent free to all members whether they attend or not. Other information may be obtained from Dr. Charles A. L. Reed, Chairman of the Committee for the United States, 60 The Groton, Cincinnati.

CANADA

Personal.—Drs. Helen MacMurchy and R. A. Reeve, Toronto, have gone to England.——Dr. Charles Sheard, Toronto, has been re-appointed medical health officer for Toronto.——Dr. William Oldright, Toronto, has resigned from the chair of hygiene in the University of Toronto and Dr. John A. Amyot has succeeded him.——Drs. Gibb and Willinsky, of Toronto; Gunn, of Kenora (Ont.), and Kelley, of Hamilton, are doing graduate work in Vienna.——Dr. G. Sterling Ryerson, Toronto, is in Paris, France.——Dr. Oskar C. Grunner, late clinical pathologist to the Infirmary, Leeds, England, has been appointed pathologist to the Royal Victoria Hospital, Montreal, and lecturer on pathology at McGill University.——Dr. J. D. McKay, Marion, Ind., has been visiting in Toronto and at his old home, Whitly, Ont.

Annual Meeting Ontario Medical Council.—The forty-fifth annual meeting of the Ontario Medical Council was held in Toronto July 5-9. The meeting was made unusually lively owing to charges by a medical journal of Toronto that the finances had been mismanaged. Dr. J. Lane, Mallorytown, was elected president; Dr. R. J. Gibson, vice-president, and Dr. John L. Bray, Toronto, registrar. The council unanimously approved of the amended Roddick bill as favored at the recent meeting of the Canadian Medical Association. A statement of the finances showed that the funds had diminished during the past year by about $7,000. As this is the last session of the present council, elections taking place in December, next, suggestions to retrench, to economize, to reduce examinations and reduce representation were duly discussed, but no definite action taken thereon. The council decided to engage the service of a chartered accountant as auditor, and to allow the complaining editor to examine the books. It was decided to cease issuing a stenographic report of the proceedings.

LONDON LETTER

(*From Our Regular Correspondent*)

London, July 9, 1910.

Lead and Dust in Pottery Works

The committee appointed by the government in 1908 to inquire into lead poisoning and other injuries to health in the pottery trades has, after a most exhaustive inquiry, issued what is probably the most important report on this subject ever published. Many pottery works in different districts were visited, delegates from manufacturers and workpeople's associations were interviewed, many witnesses were examined, including factory surgeons, inspectors and workpeople of various kinds. The inquiry covers 550 pottery works employing 63,000 persons and 7 lithographic-transfer works. The special dangers to which pottery workers are exposed are two-fold—lead poisoning and inhalation of dust without lead. Attention has chiefly been drawn to the former but it appears that the latter affects a much larger number of workers and produces more serious consequences. Out of the 63,000 workers only 6,856 (11 per cent.) are brought into contact with lead, whereas 23,000 (36 per cent.) are exposed to inhalation of dust. The remaining 53 per cent. are not exposed to any particular danger to health. Dr. Reid, health officer for Staffordshire (in which the greater number of the potteries are situated) has worked out the excess of mortality attributable to the two causes and finds that the excess among those exposed to lung disease from inhalation of dust is 7 per 1,000, whereas among the lead workers it is only 0.8 per 1,000. When the proportion of those exposed to risk is reckoned the fatality of the former cause is more than 8 times greater than that of the latter.

The morbidity caused by lung disease is believed to be also greater in at least the same proportion. In recent years the number of cases of lead poisoning has considerably diminished; in 1898 they numbered 457 and in the following years 249, 200, 106 and 87, respectively. But since 1902 there has been no diminution until 1909, when the number was only 58. From 1898 to 1902 the number of attacks fell from 74 to 13 per 1,000, but since then there has been no further improvement until 1909.

Only a small proportion of cases of plumbism are fatal; the average death-rate for the last 11 years is 1 per 1,000 workers in lead. But short of definite symptoms the general health is impaired in many operatives and miscarriages are abnormally frequent among married women working in lead. Lead is used in pottery in the form of glazes and of colors. The great majority of cases of poisoning are caused by the former. Special attention was paid to the question of leadless glazes which has been the subject of much controversy. Evidence was invited from every firm known to make a specialty of leadless glazes. Only 2 manufacturers out of 44 said that they were entirely successful in using leadless glaze for the whole of their output and these made a very cheap class of pottery. Some firms have had partial success and others have abandoned the attempt. Dr. J. W. Mellor, technical instructor in pottery manufacture, has been conducting researches for some time and is not sanguine of finding a substitute for lead. A number of government departments have been buying leadless ware for some years but they say that the price is enhanced and the quality unsatisfactory. After 5 years the war office has given up the exclusive use of leadless wares. The general conclusions drawn by the committee are that in all classes of pottery many articles can be manufactured in a high state of perfection with leadless glaze but that in the better class owing to the excessive number of "seconds" the cost is increased and that owing to difficulties in reproducing old patterns, colors, or methods of decoration, certain wares cannot be made without lead. An alternative to leadless glaze is the rendering of lead insoluble to weak acids (and consequently nonabsorbable into the system) by "fritting" it with siliceous matter. In 1900 the government proposed to make the fritting of lead compulsory and to prohibit the use of any material containing more than 2 per cent. of soluble lead compound. But the manufacturers objected, and as the result of an inquiry a standard of 5 per cent. was proposed, but even this was not rendered compulsory. Manufacturers were encouraged to adopt it by being exempted from conditions, including compensation for lead poisoning. Only a small number of factories have taken advantage of this provision. The question has been again investigated by the committee with much the same result. The weight of evidence was against the practicability of the general use of low-solubility glazes. The committee simply urge that manufacturers should be encouraged to persevere with experiments in leadless and low-solubility glazes by the relaxation of restrictions in factories where such glazes are used. An important point is the condition under which the industry is carried on in competing countries; in the United States and in Germany there are no special rules and in France the regulations relate only to ventilation, the wearing of masks, the use of tongs or gloves for dipping, etc. Among the recommendations of the committee is that women and young persons should partake of milk or cocoa made with milk in the morning before commencing work in scheduled lead processes and shall not be employed more than 46 hours a week.

The Antituberculosis Conference

The National Association for the Prevention of Tuberculosis has held its annual meet[illegible] The proceedings opened July 2 with the [illegible] Royal Victoria Hospital Farm Colony. On Sunday a semi-religious meeting of the students of the university was held at which Prof. Osler delivered an interesting address on the antituberculosis movement entitled "Man's Redemption of Man." The Countess of Aberdeen opened the exhibition and described the great success of the work of the Woman's National Health Association of Ireland (of which she is president) in combating the disease. The first tuberculosis exhibition was held at Dublin in 1907 and was subsequently divided into two, one of which went north and the other south, and 80 exhibitions were held in different parts of Ireland. Traveling vans were also sent out and visited 223 places giving popular lectures. So excellent was the work done that the association was awarded a prize of $1,000 at the tuberculosis congress in New York for the most effective work done by any voluntary association in the world.

PARIS LETTER

(*From Our Regular Correspondent.*)

PARIS, July 8, 1910.

Vaccination of Foreigners

A senator, M. Louis Martin, has just presented a bill providing that every foreigner who makes a declaration of residence in France shall be obliged to produce a certificate of vaccination or of revaccination dated not more than three months previously for himself and for all members of his family.

Substitution of a Medicament in a Prescription

A Paris pharmacist undertook to replace 50 cg. of musk by tincture of musk in a physician's prescription. The physician who gave the prescription proved the substitution and prosecuted the pharmacist. The courts condemned the pharmacist and his apprentice each to pay a fine of $100 (500 francs) on the ground that the pharmacist had arbitrarily denatured the principal element in the prescription so as to be able to give it at a lower price than other pharmacists. The judgment affirmed that pharmacists were forbidden to substitute one drug for another, or even to modify the nature or the proportions of the elements in the prescription.

Jubilee Book Dedicated to Prof. J. Teissier

The excellent German custom of publishing, on the jubilees of celebrated professors, *Festschriften*, to which the pupils and friends of the master contribute, has been followed in France on the occasion of the twenty-fifth anniversary of the professorship of Dr. J. Teissier, professor of clinical medicine at the Lyons College of Medicine (THE JOURNAL, Jan. 15, 1910, p. 218.) The jubilee book, made up of a series of original memoirs dedicated to Professor Teissier, contains, it is particularly interesting to know, contributions not only from French professors, such as Arloing, Bard, Chauffard, Pierre Marie, Widal, etc., but also from foreign professors, especially Italians, such as Bacelli, Bossi, Maragliano, Mariani and Patella. Dr. His, professor of clinical medicine at the Berlin college of medicine, has also contributed a memoir on chronic rheumatism in gout. He concludes with a declaration of his great satisfaction in being able to testify to Professor Teissier that his works, which have contributed to the elucidation of this difficult subject, as well as the views of the French school, have found beyond the frontier the appreciation which they justly deserve.

The Albert Medal Awarded to Mme. Curie

The British Royal Society of Arts has just given its highest award, the Albert medal, to Mme. Curie. The former recipients were Lord Kelvin, Pasteur, Edison, Lord Lister, Lord Rayleigh and Sir Andrew Noble.

Election of Two Foreign Correspondents to the Academy of Medicine

On July 5 the Académie de Médecine elected as foreign correspondents Drs. Pagliani of Turin and Filehne of Breslau.

Dr. Huchard and Reform of Medical Instruction

Dr. H. Huchard has just addressed to the professors of the medical schools an open letter enumerating the principal reforms which he considers necessary in medical instruction. In the first place, in certain university centers, especially in Paris, the number of students ought to be limited. In the interests both of the students and of the patients in the hospitals the distribution of the *stagiaires* in the hospital services ought to be made more uniform and more equitable. The requirements of the *concours d'agrégation* ought to be enlarged so as to permit all physicians who are competent to participate in instruction. All the *concours d'agrégation* ought, moreover, to be held, as formerly, in all the medical colleges, which would thus be emancipated from Paris. While declaring himself a convinced partisan of the system of the *concours* which gives less opportunity for unfairness, Dr. Huchard thinks that certain *concours* might be suppressed without loss. Thus the hospital externs might be appointed merely in accordance with their records at the end of the year. The appointment of professors for vacant chairs might be made from a list of eligibles composed of two *agrégés* and one unattached professor, not an *agrégé*, who had given proof of ability by published works, discoveries and instruction. Moreover, there ought to be no age limit for professors, because advanced age does not always mean diminished energy. Some theoretical chairs, especially those of medical and surgical pathology, ought to be transformed into clinical and therapeutic chairs at the hospitals. There are practical specialties indispensable to young practitioners which, though given abroad, are taught insufficiently or not at all among us; such are otolaryngology, stomatology, clinical bacteriology, electrotherapeutics, climatotherapy and hydrology. Dr. Huchard recommends the payment of professors both by the government and by the pupils.

International Conference for the Suppression of Fraud

The International Congress of Applied Chemistry, held at Rome in 1906 passed the resolution that the unification of legislation for the suppression of fraud ought to be preceded by the unification of methods of analysis, in order to avoid divergencies in the definition of fraud, which might become a source of conflict in international commerce. For this purpose the Italian government proposed the holding of an international conference at Paris because it is in France that the analysis of foodstuffs has been carried farthest. The conference will be held in Paris. Besides France, the countries represented are Belgium, Bulgaria, China, Denmark, the United States, Great Britain, Greece, Italy, Mexico, Norway, the Netherlands, Portugal, Sweden and Switzerland.

Disadvantages of Holding Several Congresses at the Same Time

The Third International Congress of Educational Hygiene will be held in Paris, August 2-7, at the same time as the *Congrés des aliénistes et neurologistes de langue française*, which will be held in Brussels, and at the same time as the annual meeting of the *Association Française pour l'avancement des sciences*, which will be held at Toulouse. This coincidence illustrates once more the fact that the organizers of scientific and medical congresses take no pains to ascertain whether the date which they choose conflicts with that of other scientific meetings. The *Bulletin Médical* calls attention to the disadvantages, especially in the present instance, of this neglect. The alienists and neurologists have placed the question of abnormal mentality in schools on its true basis. It is therefore deeply to be regretted that a congress on educational hygiene could be deprived of the valuable assistance of psychiatrists by such a conflict of dates as occurs. Moreover, the *Association Française pour l'avancement des sciences* has an important part in the scientific development of our country and it seems unfortunate that an international congress to be held in Paris did not choose some other date than that of the annual meeting of this association. Such undesirable conflicts might easily be avoided by care and forethought on the part of the organizers.

A Reward for Professional Courage

During the efforts made to rescue from the sea those who were shipwrecked in the submarine *Pluviôse*, the exemplary conduct of Dr. Savidan, physician in the marine service, has attracted particular attention. The government has just made Dr. Savidan chevalier of the Legion of Honor for "exceptional service rendered during the operations of the *Pluviôse*, where he gave proof of courage, devotion and the highest professional qualities in directing the reclaiming of the bodies of the victims." The President of the Republic himself intends to pin the cross of the Legion of Honor on Dr. Savidan.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 30, 1910.

Hygiene in Hotels

In spite of all the efforts of the medical and lay public to secure the observation of hygienic principles by hotel-keepers, much remains to be desired. The same may be said for health resorts. The German association for popular hygiene at its last session adopted the following requirements: 1. The bed clothes must be either completely covered with a linen tick or they must, according to the custom in England and partly in France, be placed under a washable spread. 2. Under the sheet there must be either a horse hair mattress or a woolen tick. 3. The room must be thoroughly cleansed before the reception of a new guest and the bed must be shaken up and thoroughly aired. 4. The carpets in the room must not be nailed down or be held by heavy articles, but with the exception of tables and chairs they must lie between the furniture so that they may be cleaned at any time. 5. The ventilation of the closet must have an outlet into the chimney and to the outside air. 6. The napkins must either be thoroughly cleansed after use or must be made of paper and thrown away after a single use. 7. Dogs must not be allowed in the restaurant rooms. 8. The food exhibited, even bread, must be placed as far as possible under glass bell jars and especially the handling over of the rolls, etc., on the tables must be forbidden. A charge for a seat or an increase in the price of the food should be introduced for the consumption of alcoholic beverages. Also it would be very desirable if the restaurants furnished small bottles of fruit juices for the preparation of lemonade as they now do with spirits.

Personal

The Heidelberg surgeon, Professor Narath, retires from teaching at the end of the summer semester on account of his health; his successor is Professor Wilms of Basel. Professor Narath succeeded Professor Czerny.

Professor Bruns of Tübingen will retire at the end of the summer semester from his position as director of the surgical clinic at Tübingen. Since Professor Anschütz of Kiel has declined the call, Professor Payr of Greifswald has been offered the place, but it is not probable that the latter will leave Greifswald for Tübingen.

Unveiling of the Virchow Monument

The Rudolf Virchow monument was unveiled June 29. As I told you at the time, the model selected created quite a sensation especially among Berlin physicians. It was impossible to change it because the monument committee had very hastily concluded a fixed contract with the sculptor. It is the general impression that the monument in no way answers the requirements of giving a correct representation of Virchow's personality. The principal part of the monument presents a robust athlete of gigantic dimensions who has seized by the throat a fabulous beast provided with a tail and is choking it to death. By this it is supposed that the fighting nature of Virchow is symbolized. Virchow himself is in fact represented on a medallion which is placed on the pedestal. The well known tired features of the great investigator contrast in the most striking way with the athlete above. On the posterior side of the pedestal is a tablet which is to immortalize the principal contemporaries of Virchow.

Number of Students at Universities

About 55,000 students have matriculated in all the twenty-one German universities, including 2,200 women. Berlin has the greatest number, 7,902, next comes Munich with 6,890, and Rostock has the least, 834. There is again an increase in the number of medical students from 9,462 last year to 10,682.

Ehrlich's Syphilis Treatment

At the internal medicine congress Ehrlich made a report on the remedy discovered by him in conjunction with Hata, an arsenic preparation called dioxydiaminoarsenobenzol, from which it appears that remarkable curative results have been achieved with it. This impression is distinctly confirmed by the statements made by the dermatologist, Dr. Wechselmann, and others at the last meeting of the Berlin Medical Society. Professor Neisser has also published a similar report in the *Deutsche medizinische Wochenschrift*. According to his observations the remedy produces a marked and surprising effect, not only on the spirochete but also on the products of syphilis. The spirochetes in many cases, not only in animal syphilis but also in that of men, disappear in from 24 to 48 hours from primary lesions and condylomata in which they were abundantly present before the administration. Syphilitic processes retrogress in many cases so rapidly that there can be no doubt as to the specific action of the remedy. Neisser reports a case of severe syphilis of the brain, in which treatment with large doses of mercury and potassium iodid had been unsuccessful, in which a single injection of 0.3 gm. produced a remarkably rapid disappearance of all subjective and objective symptoms. When possible the remedy is injected intravenously. Intramuscular injections usually occasion notable local pains and hard infiltrations; these disappear in from six to eight days leaving no trace. As a result of intravenous injection, a rise of temperature to 39.5 C. (103 F.) has occasionally occurred and vomiting has been frequent; after a few hours the symptoms disappeared. Neisser is convinced of the value of the new remedy in all respects. [An article on this substance appeared in The Journal, July 16, page 216.]

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, July 1, 1910.

The Eighth International Congress on Physiology

This meeting of physiologists will take place on September 27-30 in Vienna in the Physiologische Institut, IX Währingstrasse. The languages of the congress will be German, English, French and Italian, and apart from the scientific transactions of the meeting, a very interesting social gathering is expected, because the municipality of the city will give a banquet in honor of the foreign guests.

The Hungarian Antituberculosis Society

The report of the Hungarian Sanatorium Society for Poor Phthisical Patients, which has existed now for 12 years, offers a few interesting figures. In 1909, no less than 767 patients, who stayed over 46,000 days, had to be housed and cared for. The ratio of cures was 35 per cent. Cures are regarded as complete, if the patient is able to return to his usual light work without danger. The society has spent 1,000,000 kronen ($200,000) in erecting a new wing of the existing Elizabeth Sanatorium which has proved too small for the demands on it. This shows how much the people appreciate the opportunity. Tuberculosis is not very frequent in Hungary except in the towns where modern industries cause a flocking of laborers into slums under very unhealthy conditions, as in all rapidly developing countries.

Report of the Budapest International Congress, 1909

The executive committee of the Sixteenth International Medical Congress has now published its report. The transactions of the congress comprise 800 pages in one volume, and will be distributed to the members. Owing to grants by the government and the capital and to financial sacrifices of 21 presidents of the sections, a surplus was obtained which will be devoted for the purpose of a yearly grant or scholarship. This will be international, open to all competitors, and will be granted by the Budapest medical faculty.

Expenditures for Medical Institutions

In consequence of very energetic action by medical students and professors, the ministry of education, to whose province the medical institutions belong, has at last decided to devote a large amount for the purpose of obtaining the most urgent institutes. Thus the erection of the physical and chemical institute, which has been promised for four years, has actually been begun this summer, and a sum of 5,000,000 kronen ($1,000,000) has been fixed as the limit for expenditure for this item. Another 300,000 kronen ($60,000) will cover the cost of new book-stacks for the enormously increased medical library of the university in this city. A sum of 3,500,000 kronen ($700,000) has been granted for the clinical, gynecologic and pathologic-anatomic institute in Graz, which city is badly in need of modern teaching facilities. The cost of remodeling the obstetric clinics in Prague will be $50,000, while an equal sum has been devoted for the purpose of a botanical garden for teaching purposes in Lemberg. The University of Cracow has received $70,000 for the veterinary institute and hospital. A sum of $300,000 has been devoted (and really paid, which is the most remarkable fact), for improvements in various other medical institutions in all the seven universities of our country. Legislation being somewhat haphazard here on account of political differences between the various and numerous national and racial parties, a bill, even when passed, cannot be regarded as valid until it is really put into effect by an energetic official. Luckily, we have at the head of the sanitary departments of our ministry of education, as well as in the home office, men who understand that progress in medical science cannot wait until the funds are granted but who build first, and then get the money for the institutions at all costs.

Marriages

Wallace Blanchard, M.D., to Miss Gahfea Brandt, both of Chicago, July 12.

Albert Neil Legg, M.D., to Miss Clara Wood Barger, both of Philadelphia, June 30.

Bird Hagans Miller, M.D., to Miss Mattie Strachan, both of Blockton, Iowa, June 29.

Henry J. Pyle, M.D., to Miss Frances Van Zoeren, both of Grand Rapids, Mich., June 9.

Amos McK. Jones, M.D., Anson, Texas, to Miss Winnie Brooks, of Evant, Texas, July 6.

Lewis W. Dudley, M.D., Elgin, Ill., to Miss Marion T. Connell, at Fond du Lac, Wis., June 29.

Harry Ephraim Plummer, M.D., to Miss Mabel Dibblee Price, both of New York City, July 6.

James Louis Early, M.D., Saltville, Va., to Miss Melita Rorer Wilson, of Radford, Va., June 30.

Mial R. Lyman, M.D., Bad Axe, Mich., to Miss Elizabeth E. Deno, of Saginaw, at Cuba, Ill., June 30.

George Carroll Rhoades, M.D., U. S. Navy, to Miss Elizabeth Selden Baxter, of Elizabeth City, N. C., July 7.

David Yandell Roberts, M.D., to Miss Alla May Sweeney, both of Louisville, Ky., at Jeffersonville, Ind., July 4.

Alexius McGlannan, M.D., Baltimore, Md., to Miss Sally Porter Law, of Hartford, Conn., at Philadelphia, July 2.

Deaths

Mihran K. Kassabian, M.D. Medico-Chirurgical College of Philadelphia, 1898; a member of the American Medical Association; vice-president of both the American Electro-Therapeutic Association and the American Roentgen-Ray Society; formerly in charge of the Roentgen laboratory and instructor in electro-therapeutics in the Medico-Chirurgical Hospital and College; director of the Roentgen Ray Laboratory of the Philadelphia General Hospital; author of "Electro-Therapeutics and the Roentgen Rays;" an Armenian who came to this country in the year 1894 to study medicine; died in Philadelphia, July 12, from dermatitis, as the result of burns received during many years of practice with the Roentgen rays, after having several operations performed in an effort to check the progress of the malady, aged 42.

Walter Joseph McEvilly, M.D. Barnes Medical College, St. Louis, 1903; a member of the American Medical Association; president of Tama County, Iowa, Medical Society; of Dysart, Iowa; was killed by being struck by a train near Lombard, Ill., July 19, aged 41. With his wife and daughter he was on his way home in an automobile he had purchased, and all three met death together.

Charles Nathaniel Hewitt, M.D. Albany (N. Y.) Medical College, 1857; of Red Wing, Minn.; a veteran of the Civil War; executive secretary of the Minnesota State Board of Health for twenty-five years from the time of its organization in 1872; for some years professor of public health in the state university; died at the home of his daughter in Summit, N. J., July 7, aged 74.

Wallace Kilbourne Oakes, M.D. College of Physicians and Surgeons, New York City, 1873; a member of the American Medical Association; of Auburn, Maine; formerly a member of the State Board of Health and a member of the United States Board of Pension Examining Surgeons; died suddenly at Poland Spring, Maine, July 8, from cerebral hemorrhage, aged 59.

Frederick Augustus Lyons, M.D. College of Physicians and Surgeons, New York City, 1876; a member of the New York Academy of Medicine, the New York Medico-Surgical Society, and the American Academy of Medicine; surgeon to the New York Fire Department since 1885; died at his home, July 5, from sarcoma, aged 55.

Robert J. Walker, M.D. Columbus (Ohio) Medical College, 1884; a member of the Ohio State Medical Association; of Toledo, Ohio; was found dead on a sleeping car on the Michigan Central Railroad at Rochester, Mich., while returning to Toledo from Mackinac, July 7, from cerebral hemorrhage, aged 48.

James Philip Wallace, M.D. Jefferson Medical College, Philadelphia, 1864; Bellevue Hospital Medical College, New York City, 1866; regimental surgeon of the Fiftieth Indiana Infantry during the Civil War; of Colorado Springs, Colo.; died at Nogales, Ariz., June 19, from nephritis, aged 69.

John Benton Farley, M.D. Vanderbilt University, Nashville, Tenn., 1886; a member of the Medical Association of the State of Alabama; a well known planter and practitioner of medicine; died at his home in Farley, Madison county, Ala., July 7, from typhoid fever, aged 50.

Henry Clay Grover, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1855; surgeon of the Twentieth Indiana Infantry during the Civil War; a member of the state legislature in 1879; died at his home in Rushford, Minn., July 4, from senile debility, aged 79.

Richard Temple Walker, M.D. Medical College of Virginia, Richmond, 1874; a member of the Florida Medical Association; acting assistant surgeon, U. S. P. H. and M.-H. Service, stationed at Cedar Keys, Fla.; died at his home in that place, June 26, aged 58.

Asahel Norton Brockway, M.D. College of Physicians and Surgeons, New York City, 1861; assistant surgeon in the United States Army during the Civil War; of New York City; died at Clinton, N. Y., July 4, from cerebral hemorrhage, aged 74.

Claude Van Bibber, M.D. University of Maryland, School of Medicine, Baltimore, 1877; a member of the Medical and Chirurgical Faculty of Maryland; of Baltimore; died at St. Joseph's Hospital in that city, July 11, from nervous disease, aged 57.

Thomas Cammack, M.D. Medical Department of the Columbian University, Washington, D. C., 1845; an active practitioner of medicine of Milford, Ind., for sixty years; was found dead in bed at his home in that place, July 9, aged 87.

John Bartlett, M.D. University of Louisville (Ky.) Medical Department, 1850; a member of the American Medical Association; a pioneer physician of Chicago, having practiced on the north side since 1862; died at his home, July 18, from pneumonia, aged 81.

William Alonzo Upperman, M.D. Western Pennsylvania Medical College, Pittsburg, 1903; physician for the Pittsburg Plate Glass Company at Ford City, Pa.; died at his home in that place, July 3, from heart disease, aged 35.

Henry Clay Paddock, M.D. University of Michigan, Department of Medicine and Surgery, 1879; physician to Manhattan Eye, Ear and Throat Hospital, New York City; died in that city, Nov. 9, 1909, from pneumonia, aged 61.

Patrick Thomas Sullivan, M.D. Georgetown University School of Medicine, Washington, D. C., 1895; of McKees Rocks, Pa.; died at Mercy Hospital, Pittsburg, July 6, from cerebral hemorrhage, aged about 40.

Nathaniel R. Gerry, M.D. University of Maryland School of Medicine, Baltimore, 1864; of Catonsville, Md.; died at St. Agnes Hospital, Baltimore, where he had been a patient for nearly a year, July 2, aged 78.

Chesterfield Harrell Smith, M.D. Atlanta (Ga.) Medical College, 1880; of Arcadia, Fla.; died at Candler, N. C., where he had gone to spend the summer, June 28, from cerebral hemorrhage, aged 54.

J. Louis Gahm, M.D. Medical College of Ohio, Cincinnati, 1887; a member of the American Medical Association; of Jackson, Ohio; died at Grant Hospital, Columbus, July 6, from mastoiditis, aged 48.

William W. Cleaver, M.D. University of Louisville (Ky.) Medical Department, 1850; a member of the Kentucky State Legislature in 1893; died at his home in Lebanon, Ky., July 4, from paralysis, aged 83.

Philip Dickes, M.D. Bellevue Hospital Medical College, New York City, 1886; a member of the American Medical Association; died at his home in Greenville, Ohio, July 7, from cancer, aged 57.

Daniel C. Carroll, M.D. University of Arkansas, Little Rock, 1881; a member of the Arkansas Medical Society; of Tillar, Ark.; died at Eureka Springs, June 30, from hepatic cirrhosis, aged 52.

William Trect Mahon, M.D. Jefferson Medical College, Philadelphia, 1883; a member and president of the Nanticoke, Pa., Board of Health; died at his home, July 1, from nephritis, aged 58.

George W. Bowen, M.D. Hahnemann Medical College and Hospital, Chicago, 1863; a resident of Fort Wayne, Ind., since 1858; died in that city, July 7, from senile debility, aged 84.

Thomas R. Newman, M.D. University of Tennessee Medical Department, Nashville, 1890; died at his home in Nashville, July 4, from congestion of stomach and liver, aged 43.

Charles Lewis Wingfield, M.D. University of Pennsylvania, 1848; a member of the Medical Society of Virginia; died at his home in Warren, June 27, from diabetes, aged 84.

John W. P. Bates, M.D. Jefferson Medical College, Philadelphia, 1862; a resident of Baltimore for nearly fifty years; died in that city, July 8, from nephritis, aged 74.

C. L. Clarke, M.D. Memphis (Tenn.) Hospital Medical College, 1893; of Manchaca, Texas; died at the Muskogee, Okla., Hospital, July 6, following an operation, aged 43.

Franklin Raymond Rawls, M.D. Vanderbilt University, Nashville, Tenn., died suddenly at his home in Taft, Tenn., April 26, from heart disease, aged 55.

Thomas J. Davison (license, Ind., 1881); a veteran of the Civil War; died suddenly at his home in Ebensburg, Pa., July 1, from angina pectoris, aged 72.

John Park Mason, M.D. University of Buffalo (N. Y.) Medical Department, 1880; formerly of Houghton, Mich.; died at Elmira, N. Y., July 4, aged 56.

William Arthur Snoke, M.D. Drake University College of Medicine, Des Moines, Iowa, 1898; died at his home in New Corydon, Ind., July 1, aged 35.

E. Miles Willett, Jr., M.D. Memphis (Tenn.) Hospital Medical College, 1884; of Memphis; died at St. Joseph's Hospital in that city, July 11, aged 46.

Adam A. Hessell, M.D. College of Physicians and Surgeons, Chicago, 1891; died at his home in Put-in-Bay, Ohio, July 7, from heart disease, aged 42.

Jacob Randall (license, 1878, Ill.); said to have been the oldest physician in Washington County, Illinois; died at Okawville, Ill., July 8, aged 85.

Ludwig Ullmann, M.D. Pennsylvania Medical College, Gettysburg, 1861; died at his home in Springfield, Mo., June 30, from cystitis, aged 80.

Pharmacology

MRS. CORA B. MILLER'S HOME TREATMENT *

Another Fraud Put Out of Business by the Post-Office Authorities

Kokomo, Ind., has long been known to the readers of not-too-particular newspapers and magazines as the headquarters of a philanthropic lady who for some years has been "spending a fortune in giving medical treatment absolutely free to suffering women"—Mrs. Cora B. Miller. The scheme was to send a free treatment to all women applying for it and to urge the prospective victim to take the regular treatment, price, $1. Form letters, "follow-up" letters and the other paraphernalia of the mail-order house were used in the usual way to relieve the gullible sick of their money. How well it succeeded was recently brought to light when the postal authorities looked into the concern and found that the gross receipts of the business were in excess of $100,000 a year. In fact, the postmaster of Kokomo testified that during the fiscal year ending June 30, 1909, over $81,000 was paid to the concern on money orders presented by it and that a great deal more had been received by registered mail.

The "dope" furnished by "Mrs. Cora B. Miller"—apparently the same for all cases, whether a mild leucorrhea, a displaced uterus or a uterine carcinoma—was analyzed in the government laboratory, and according to the analysis, found to consist of:

Boric acid	39.96 per cent.
Tannin	5.78 per cent.
Cacao butter	54.03 per cent.
Carbolic acid	Trace.

(Average of three analyses.)

A box of this nostrum sold for $1; the cost of it probably was less than six cents. It is not surprising to read, therefore, that "Mr. Miller is without other source of income and has grown rich in this business . . . his holdings in real estate are probably more valuable than those of any other person in the county in which he lives."

Throughout the advertisements and circulars the implication was made that a woman—to-wit, Mrs. Cora B. Miller—was in charge of the business, had originated the "treatment" and directed the medical treatment of the dupes who wrote to the concern. All circular letters were signed "Mrs. Cora B. Miller," and every effort was made to convey the impression that a woman was running the business. As a matter of fact, the government showed that the business was conducted by Frank D. Miller, who started it under the name of the Kokomo Medicine Company and conducted it under this name until after his marriage, when it was reorganized and incorporated in his wife's name. According to the report, Mrs. Miller had nothing whatever to do with the conduct of the business, had never had any training that would fit her to prescribe for women's ailments and, in fact, her name was evidently used only as an advertising asset—much in the same way as the old Lydia Pinkham advertisements exploited that long-since-deceased individual.

Miller himself is not a physician and the investigation showed that the medicine was compounded by the clerks and stenographers whom the concern employed; the same clerks also answered—by means of form letters—the inquiries sent in by the victims. Miller claimed that his concern employed a "consulting physician" in the person of Dr. Chancellor, who was supposed to call at the office of the concern about once a week. Dr. Chancellor was very rarely consulted, in fact, there was no need of it apparently, if all the victims received the same boric acid and tannin mixture.

Testimonials? Of course. There was never a medical fraud so blatant nor an imposition so brazen but could show testimonials in its favor. As the assistant attorney-general said in summing up the case against this concern: "The treatment, because of its antiseptic and astringent character, will undoubtedly palliate certain symptoms, and it is plain that the patients who have given these testimonials have been troubled only with conditions that the medicine will help. . . . . This is, in fact, one of the most pernicious characteristics of this business; the company is aided greatly in its efforts to foist this remedy on the public by these statements which are, no doubt truthfully quoted, but which are the result of self-deception and known to be so by the promoters of the business."

In view of the evidence, the assistant attorney-general declared the concern to be "a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises," and recommended that a fraud order be issued against the Mrs. Cora B. Miller Company. The order was issued.

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* A more complete account of the government's action in this case will be published in pamphlet form—illustrated—suitable for physicians to distribute among their patients. Price, four cents.

Alkalithia and the Council

The following letter is from Dr. Albert Mueller, Commissioner of Health, Rock Island, Ill.:

> *To the Editor:*—A detail man for the Keasbey & Mattison Company (Ambler, Pa.) was in my office to-day and left samples of their goods, such as Alkalithia, etc.
>
> "On questioning him, as I do all these people, whether Alkalithia had been submitted to the Council for approval and insertion in New and Nonofficial Remedies, he replied that several years ago such a procedure was done and that the Council *accepted Alkalithia* but wished to censor the advertising matter sent to physicians. To this Dr. Mattison would not agree. He added that for $100 the product would be accepted, and all could be "fixed up" with the Council, therefore intimating that the Council could be bribed.
>
> "I am writing this because in my opinion such stories can do the Association much harm and bring discredit on the Council, if they continue unrefuted. I, for one, am heartily in favor of the good work the Council is doing and account for this criticism as being due to the malice and spite of rejected manufacturers."

A copy of Dr. Mueller's letter was sent to the Keasbey & Mattison Company with a request for an explanation. The firm in replying stated that it "would not countenance any statement of this kind." The president of the Keasbey & Mattison Company in a later letter said that the agent in question had denied having made the statement reported by Dr. Mueller, and the president intimated that he did not believe the agent ever made such a statement.

The question thus resolves itself into one of personal veracity between Dr. Müeller and the agent for Alkalithia. Whether it is more likely that a reputable physician of high standing in his community should fabricate a slander on the Council, with no conceivable object in view than that the agent for a proprietary product that has been rejected by the Council should do so, we leave for the medical profession to decide.

If any other physicians have had an experience similar to that reported by Dr. Mueller, we should be pleased to hear of it. Such coincidences would prove interesting.

Correspondence

The Term Allopathy—A Protest

To the Editor: In the article, "The Medical Sects," THE JOURNAL, July 9, 1910, p. 146, occurs the following passage: "Allopathy was just as sectarian as homeopathy. Indeed homeopathy was the inevitable retort to allopathy." Here is given a false impression—indeed, a misstatement of the facts. Both terms were the invention of Hahnemann; with him began the "pathies" and it is certainly time that scientific medicine put an end to them.

JOSEPH A. COGAN, Boston.

Smallpox and Vaccination in Japan

To the Editor:—The opponents of vaccination in England and in the United States are circulating the statistics of smallpox in Japan in recent years with a view to discrediting the prophylactic effect of vaccination in that country. They point out that Japan, which is supposed to be a thoroughly vaccinated country, has had, in the twenty years from 1889 to 1908, 171,500 cases of smallpox, and that in 1908 there were 18,139 cases. If the inhabitants of Japan were all thoroughly well vaccinated, these figures would seriously challenge the effectiveness of vaccination as a preventive measure against smallpox. There is, however, information at hand to show that a very large number of Japanese subjects have not been successfully vaccinated, and this information comes to us from an unimpeachable and authentic source. Dr. T. Amako, director of the Municipal Hospital for Infectious Diseases in Kobe, Japan, has recently published an article entitled "A Study of the Variola Epidemic in Kobe" (*Arch. f. Schiffs- u. Tropen-Hyg.*, 1909, xiii, 409). He prefaces his statistics by stating that "fearful epidemics of smallpox have raged in Japan 70 times between the years 551 and 1884." He says that "vaccination was introduced into Japan in 1848, but was carried out very incompletely. In 1885, the first imperial vaccination law was passed and since then the former murderous epidemics of smallpox have been tremendously lessened through vaccination." In the year 1908, in the city of Kobe, with a population of 372,751, there were 4,184 cases of smallpox. Amako had an opportunity of observing 3,465 patients and of noting the relation between vaccination and smallpox in these cases. Of the entire number 1,607 patients, representing 46.4 per cent., were vaccinated and the remaining 1,856, or 53.5 per cent. were either unvaccinated or vaccinated unsuccessfully. Of the vaccinated patients, 116 died, representing a mortality of 7.2 per cent.; of the unvaccinated or unsuccessfully vaccinated patients, 851 died, representing a mortality of 45.8 per cent. It is thus seen that the mortality among the unvaccinated patients was nearly seven times as great as among the vaccinated cases.

There is certainly nothing in these figures which can possibly be construed to be unfavorable to vaccination. When by actual examination of the patients, an official finds over 50 per cent. of those suffering from smallpox to be unvaccinated or unsuccessfully vaccinated, there is no justification for the expectation that Japan should be free of epidemics of smallpox. It must be remembered, furthermore, that 18,000 cases of smallpox in a population of over 49,000,000 crowded together on a relatively small island is not excessive when compared with the number of cases in other countries. According to the estimate of John W. Trask, of the U. S. Public Health and Marine-Hospital Service, there were probably more than 70,000 cases of smallpox in the United States in 1908. It is thus seen that the smallpox statistics of Japan as compared with the United States are much in favor of the former country. As indicating the opinion of the Japanese government of the value of vaccination, we may take its attitude towards vaccination in Korea. The total number of persons vaccinated in Korea in 1908 was 544,630. Japan has established 30 official committees of vaccination among the 13 provincial Korean governments, and has appointed 600 official vaccinators among the district magistracies and prefectures. In addition, 48 noncommissioned official doctors have been attached to important local police stations to aid in the work of vaccination. (See abstract in *Literary Digest*, June 25, 1910, p. 1253). It is evident that this vaccination campaign is costing Japan enormous sums of money, but this progressive nation recognizes that the work is of great importance to its development and to the development of Korea. In view of the attitude of the Japanese government (which is certainly in possession of all the facts concerning vaccination within its own domain) the criticism of English and American antivaccinationists, interpreting the results of vaccination from afar and crying "failure," will convince no one save themselves.

JAY FRANK SCHAMBERG, Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SALT-FREE DIET

To the Editor:—Please give me more or less in detail, the salt-free diet treatment advocated by Dr. Magnus-Levy?

S. W. SAPPINGTON, Philadelphia.

ANSWER:—The term "salt-free diet" is scarcely appropriate, as the diet advocated by Magnus-Levy, Widal and others is a diet poor in salt, but not necessarily free from it. A diet poor in salt can be secured by the use of a milk diet for a time, but if milk is to be used to supply the total nutriment of the patient, it will itself contain too much salt. Therefore it is better to construct a diet consisting of carbohydrates, vegetables, fruit, milk and even some meat, to which no salt is added in the cooking. Such a diet is found to satisfy the nutritive requirements of the patient and yet to give less salt than if a pure milk diet is employed. The following directions are given in describing this diet by F. Kraus and T. Brugsch ("Therapeutische Technik für die Aerztliche Praxis," by J. Schwalbe, 1910): 1. The bread should be baked without the use of salt. 2. Unsalted butter should be furnished. 3. Not more than 1 liter of milk should be used. 4. Meat should be boiled and given the patient without the broth. 5. Vegetables should be boiled for a long time in water and this water poured off. 6. The cook should be forbidden to use salt in any way in the preparation of food for nephritics. Such a diet is well borne by some patients, but others become tired of it and the question may arise whether the addition of some salt cannot be permitted. Widal has found that in such cases it is sufficient to allow the daily addition of from 1.5 to 2 gm. to be applied to the meat, which is the most insipid for these patients.

DISCOVERY OF THE CAUSES OF MALARIAL AND YELLOW FEVER

To the Editor:—1. When and by whom were the causes of malarial and yellow fever discovered? 2. Who lost their lives through these researches? 3. Which of the workers along this line are living?
H. W. Jones, Arthur, Ill.

Answer.—1. The parasite of malarial fever was discovered by C. L. A. Laveran of Paris, in 1880. The transmission of malarial fever by the mosquito was suggested by Sir Patrick Manson, demonstrated by Major R. Ross and later confirmed and more fully developed by G. B. Grassi of Rome. The agency of the mosquito in transferring yellow fever was suggested by Dr. C. Finlay about 1880, but this agency was not demonstrated until 1900, when the experiments of the U. S. Army yellow fever commission, consisting of Major Walter Reed, James W. Lazear, James Carroll and A. Agramonte, were made.

2. We recall no deaths of investigators experimenting with malaria. Carroll and Lazear allowed themselves to be bitten with yellow fever infected mosquitoes; Dr. Carroll suffered a severe attack of the disease and Dr. Lazear died from yellow fever thus communicated. Dr. Carroll's obituary was published in The Journal, Sept. 21, 1907, p. 1048.

3. We believe that the principal workers on the theory of malaria transmission are still living. Of the American yellow fever commission only Agramonte survives.

OLIVE OIL IN DISEASES OF THE STOMACH

To the Editor:—Please give me some references concerning the use of oil in diseases of the stomach
O. L.

Answer.—Hodgdon, A. L.: Olive Oil in Obstruction of the Esophagus, The Journal, Dec. 28, 1907, p. 2152.

Rutimeyer, L.: Oil in Treatment of Stomach Affections, *Cor.-Bl. f. schweiz. Aerzte*, Nov. 1, 1908; abstr. in The Journal, Dec. 5, 1908, p. 2009.

Bloch, W.: Benefits of Oil Treatment of Ulcers and Stenosis of Pylorus, *Arch. f. Verdauungsk.*, xiii, No. 6; abstr. in The Journal, Feb. 8, 1908.

Cowie, D. M., and Munson, J. F.: Experimental Study of Action of Oil on Gastric Acidity and Motility, *Arch. Int. Med.*, January, 1908; abstr. in The Journal, Feb. 22, 1908, p. 643.

Graham, E. A.: Olive Oil for Postanesthetic Nausea, The Journal, Dec. 18, 1909, p 2094.

BOOKS ON DISEASES OF OLD AGE

To the Editor:—Please refer me to books on diseases of the aged.
H. W. Howard, Prosser, Wash.

Answer:

Crichton-Brown: Prevention of Senility, Macmillan Co.

Lorand: Old Age, F A Davis Co.

Metchnikoff: Prolongation of Life, G. P. Putnam's Sons.

Minot: The Problem of Age, Growth and Death, G. P. Putnam's Sons

Weber: Means for the Prolongation of Life, John Bale Sons & Danielsson, London.

DATA WANTED ON BLOOD-PRESSURE AMONG RAILROAD EMPLOYEES

To the Editor:—Has any blood-pressure work been done among railroad employees, and if so, where may I procure the publications?
E. M. Parlett, M.D.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 16, 1910:

Foster, George B., Jr., lieut., will report to the president Arm Medical School in this city for a continuation of the course o instruction.

Michie, Henry C., Jr., lieut, will proceed to Fort Lincoln, N. D tor temporary duty.

Harris, Jesse R., capt., relieved from treatment at Army Genera Hospital, San Francisco, and will return to his proper station.

Hopwood, Lucius L., capt., is assigned to command of the one half of Co. B, Hospital Corps, Camp of Instruction at Leon Spring Tex., and at Atascadero, Cal.

Tignor, Edwin P., dental surgeon, granted 20 days' leave o absence about July 15, 1910.

Wertenbaker, C. L., M. R. C., relieved from duty at Fort Ja N. Y., and ordered to Fort Gibbon, Alaska.

Ferrin, Carlisle F., contract surgeon, granted 28 days' leave o absence.

Shepard, John L., capt., relieved from duty at Fort Logan, Colo and ordered to Philippine Islands for duty on transport sailin from San Francisco, November 5.

Howell, W. O., M. R. C., relieved from duty at Presidio of Sa Francisco, and ordered to Scofield Barracks, H. Ty., for duty.

Gunckel, George I., dental surgeon, left Fort McPherson, Ga. on 20 days' leave of absence.

Dean, Elmer A., major, left Fort George Wright, Wash., en rout to camp at American Lake, Wash.

Pulver, A. L., M. R. C., reports in temporary charge of attendin surgeon's office, New York City.

Fauntleroy, P. C., major, left Fort Benjamin Harrison, Ind., e route to Camp Douglas, Wis.

Boyer, Perry L., capt., granted 30 days' leave of absence o surgeon's certificate of disability, with permission to apply for 1 days' extension.

Barney, Charles N., major, assigned to duty as inspector-instructo at encampment of Connecticut Militia at Niantic, Conn., July 18 t 23, 1910.

Patterson, R. F., dental surgeon, reported for duty at For Sheridan, Ill.

Knox, Howard A., lieut., left Fort Hancock, N. J., with the 10t Cavalry, en route to Camp of Instruction, Pine Camp, N. Y.

Edger, B. H., Jr., major, left Fort Meade, S. D., en route to For D. A. Russell Target and Maneuver Reservation.

Reynolds, C. R., major, left Washington Barracks, D. C., en rout to Camp at Gettysburg, Pa.

Stuckey, H. W., M. R. C., to return to station Fort Hamilton N. Y., on return of Captain William L. Little, Medical Corps, t Fort Adams, R. I.

Sherwood, John W., M. R. C., ordered to proceed from For Williams, Me., to Fort Banks, Mass., for temporary duty.

Ashburn, P. M., major, will report to commanding general, Department of California, for assignment to duty at the camp of instruction at Atascadero, Cal.

Wolfe, Edwin P., major, will repair to this city for consultation with the Surgeon General of the Army.

Whitney, Walter, M. R. C., relieved from Fort McPherson, Ga., and ordered to Fort Egbert, Alaska, relieving Captain Alexander Murray, Medical Corps.

Murray, Alexander, capt., on being relieved from duty at Fort Egbert, Alaska, proceed to Seattle, Wash., and report by telegraph to The Adjutant General of the Army for further orders.

Smith, L. L., capt., relieved from duty, West Point, N. Y., and ordered to Army Medical School, Washington, D. C., for a special course of instruction.

Richards, Robert L., capt., relieved from special course of instruction at the Army Medical School, Washington, D. C., and ordered to New York City, for duty as attending surgeon.

DeLaney, M. A., capt., granted 2 months' leave of absence.

Marietta, S. H., M. R. C., left Fort Des Moines, Iowa, with Troops C and D, 6th Cavalry, on detached service.

Scott, Minot E., dental surgeon, returned to Vancouver Barracks from temporary duty at Fort Lawton, Washington.

Stuckey, H. W., M. R. C., reports from temporary duty at Fort Adams, R. I., to detached duty with troops from post in camp at Fort Wetherill, R. I.

Wing, Franklin F., dental surgeon, left Fort D. A. Russell, Wyo., on 1 month and 20 days' leave of absence.

Harris, J. R., capt., returned to Fort George Wright, Wash., from treatment at Army General Hospital, San Francisco.

Casaday, George H., dental surgeon, reports for temporary duty at Fort Baker, Cal.

Harris, Herbert I., M. R. C., Now at Gettysburg, Pa., will report in person to the commanding officer of the camp of instruction at that place for temporary duty, and on the completion thereof will revert to a status of absence with leave.

Hathaway, L. M., capt., ordered to proceed from San Francisco, to the Presidio of Monterey, Cal., for station and duty.

Medical Corps, U. S. Navy

Changes for the week ended July 9, 1910:

Seaman, William, P. A. surgeon, from awaiting orders to duty at the Naval Recruiting Station, New York.

Geiger, Albert J., P. A. surgeon, from duty at the Navy Yard, Mare Island, and such other duties as may have been assigned him, to duty at the Naval Hospital, Mare Island, Cal.

Camerer, Clyde B., asst.-surgeon, from duty at the Naval Hospital, Norfolk, Va., to duty at the Naval Hospital, Las Animas, Colo.

Bloedorn, Walter A., asst.-surgeon, from duty at the Naval Hospital, Las Animas, Colo., granted 2 weeks' leave. On the completion of this leave, to temporary duty at the Navy Yard, Mare Island Cal.

Miscellany

Report on Drunkenness in Massachusetts.—In 1909 the legislature of Massachusetts authorized the trustees of the Foxborough State Hospital for Inebriates to investigate the subject of the treatment of drunkenness in Massachusetts, including the classification of inebriates, proper equipment for their treatment, the subsequent care of discharged patients and inmates and the opportunity for the cooperation of private citizens. The report, prepared under the direction of the trustees by James Ford, Ph.D., instructor in the department of social ethics of Harvard University, and published as a state document, is a pamphlet of 70 pages. Its preparation has involved a careful study, chiefly from printed data, of the public treatment of inebriety in this country and Europe. The report gives statistics of drunkenness in Massachusetts in 1908, defines drunkenness, discusses types of cases, court procedure and disposition of cases, giving figures, and comments on defects in present criminal procedure as follows: Release, which is an excellent and proper disposition for first offenders and the accidental drunkard, has been applied to old offenders on account of a lack of a central record bureau of cases in all courts, and occasional drunkards have been allowed through neglect to develop confirmed inebriety and become burdens on the state. Probation was applied to less than one-tenth of all offenders though over one-third of all those sentenced were released. Probation should have been applied in more cases, but the number of probation officers is too small to permit of the extension of this feature. The fine is usually open to serious objection because it is imposed at a time when the prisoner has no money to pay, and hence falls on his family or friends; the prisoner himself does not bear the penalty. Imprisonment for non-payment of fine is unjust both to the prisoner and to the state. It defeats the intention of the judge to punish, while it doubly penalizes the man. Suspended sentence, permitting payment of fine while on probation, is a great saving to the state, both in fines collected and in homes protected. Imprisonment for drunkenness too often fails as a correctional measure. The prisoner's family suffer a penalty because they lose the man's wages. The incarceration costs the prisoner his employment, which was his chief claim to respect, and he finds it difficult to obtain work on his release. The children of a prisoner are looked at suspiciously for signs of evil inheritance. The Foxborough State Hospital is intended for young persons concerning whom there is a good prognosis; it receives inebriates and drug habitués on voluntary submission to treatment, under conditions prescribed by the acts of 1909, and on commitment on application of relatives or others. It has been found unwise to retain patients incapable of cure, as they create an undesirable workhouse atmosphere. Treatment relies largely on the building effect of pure air, good food, abstinence from alcohol and drugs, regular hours and out-of-door skilled labor. Medicine is given where needed. But this is not sufficient to cure the pathologic inebriate, and the education of the will is one of the objects sought, supplemented by various environmental conditions and oversight after leaving the institution. Recommendations are made as follows: The statutes should be so modified that imprisonment for non-payment of fine be abolished and suspended sentence substituted, permitting the fine to be earned and paid to a probation officer. Probation is essential in the early career of drunkards and it should be applied to a larger proportion of cases. Institution treatment should provide for ample and flexible equipment for the different types of drunkard. For certain types of occasional drunkard short sentences to the house of correction is the proper course. In vicious, vagrant and criminal cases, indeterminate sentence to the farm is urged. For the treatment of the non-criminal habitual inebriates, a hospital for curable cases and a farm colony for incurables are needed.

The Control of Scarlet Fever.—The control of scarlet fever in a community, so far as our present knowledge allows us to proceed, means the control of seasonal prevalence, the limitation of occasional outbreaks and the destruction of endemic or sporadic foci (Crookshank, *Proc. Roy. Med. Soc.*, February, 1910). We cannot learn the natural history of scarlet fever either in the hospital or the laboratory. The bacteriologist or the superintendent of a hospital is no greater authority on the natural history of the disease than is a keeper at the Zoo on the habits of the tiger in his jungle. In studying scarlet fever in the natural state in epidemics in Ireland, Graves formulated the axiom that "a constitutional affection, produced by morbid animal or vegetable poisons, may display its evidence by only one or two of the numerous symptoms which usually accompany it," and this character appears to have been noted chiefly in connection with epidemics. The statistical tables almost invariably show that outbreaks of any magnitude (other than those due to milk) run for about eight months, and the period of greatest activity is always about six weeks. We have been taught that scarlet fever always breeds true; that a case at the present day is in direct descent from the first case that ever existed; that epidemics are due to neglect of sanitary precautions, and that epidemics come to an end after a process known as stamping out. There is also another belief that they come to an end through exhaustion of the soil. The soil varies, and "exposure to infection" is not a fixed quantity and cannot easily be defined. Does not the effective potency of the virus to produce certain specific effects vary? The classical experiments of Pasteur with rabies and chicken cholera prove that it does. Crookshank has never known the virus from a typical case of scarlet fever after passage through two removes to reproduce in a fourth case the typical symptoms. An exception is seen, apparently, in isolation hospitals but here the experiment is not a pure one, and a return case is not necessarily a return of the original virus, but may be another strain of the same virus carried by an imperfectly immunized patient. It is a clinical observation also that a process of intensification occurs. One child in a family has sore throat, but no rash, no peeling, and little fever. Another child a week or two later has a sore throat, greater fever and a peeling tongue. A third child develops a typical case. Such a series frequently occurs at the beginning of an outbreak. Is it not a fair deduction that epidemics of scarlet fever (except milk outbreaks) follow the intensification of a virus by passage through the bodies of responsive persons, and that they terminate after attenuation by passage through a further series of bodies? Crookshank believes there can be no doubt of it, and that a series from its first manifestation to its disappearance usually consists of about six cases, of which the third and fourth are commonly the most typical and most severe. The normal cycle of epidemic scarlet fever does not extend beyond a sequence of six cases. He thinks that this is a far more reasonable explanation than is the alleged termination from exhaustion of the number of susceptible persons. Notwithstanding this he believes that the removal of scarlet fever patients to isolation hospitals reduces the incidence of the disease, and is about the best thing for the average citizen as it insures him against expense in case his household becomes stricken and safeguards him against business or professional loss.

The Treatment of Facial Neuralgia by Local Injections.—As opposed to radical operations, A. Sicard of Paris (*Proc. Internat. Med. Cong.*, Budapest, 1909) strongly advocates the treatment of facial neuralgia by means of local injections (alcohol, etc.). He describes the technic of injection in the various forms of facial neuralgia, gives his results in 168 cases so treated and a short historical sketch of the development of the treatment of facial neuralgia by local injection. Two distinct types of facial neuralgia are described; a neuralgia facialis essentialis and a secondary facial neuralgia. The neuralgia facialis essentialis may be attributed (in agreement with Bissaud) to a narrowness of the foramina at the base of the skull through which the sensory nerve branches pass, and is more often found on the right side; the secondary neuralgia may be due to either peripheral or general causes. The neuralgia essentialis seldom affects all three branches of the nerve. The paroxysms are, however, very severe; local myoclonia, a strong hyperemia of the skin, an overflow of tears, and a hypersecretion of the esophageal glands often result. It is easy to distinguish this paralysis from unilateral frontal migraine. In treatment by the injection method the chances of serious complications are small. Large temporary hematomas may arise around the point of injection. To be certain that the treatment is successful it becomes necessary only to establish a persistent anesthesia in the skin or mucous membrane of the area supplied by the affected and injected nerve branch. In cases of myoclonia Sicard likewise found it sufficient to inject with alcohol the peripheral branches of the motor facial nerve. In all the 168 cases of facial neuralgia so treated beneficial results are reported. Relief was also afforded in one case in which the Gasserian ganglion was injected directly with alcohol through the foramen ovale. For injection Sicard used a very fine platinum needle 4 to 6 cm. in length. The skin was anesthetized with a 1 per cent. solution of stovain. For injection fluid 80 per cent. alcohol with or without the addition of stovain, but never mixed with chloroform, was most generally employed. Good results were also obtained by using the following solution for injection; 50 c.c. of 80 per cent. alcohol, 1 gm. menthol and 50 gm. novocain. [Note: Those who wish to look this subject up further will be interested in the articles by Patrick in The Journal, Nov. 9, 1907, xlix, 1567, and Dec. 11, 1909, liii, 1987, and by Hecht in The Journal, Nov. 9, 1907, xlix, 1574.]

Tuberculin in Progressive Paralysis.—In the face of the great skepticism which exists among the majority of the medical profession regarding the curability of progressive paralysis, Jauregg von Wagner (*Proc. Internat. Med. Cong.* in Budapest, 1909) reports many cases of apparent cures by means of the injection of tuberculin or by a combination of tuberculin injection and antiluetic treatment (mercury, iodids, etc.). The reported results are, moreover, not in accord with those obtained by Ziehen, Kraepelin, Krafft-Ebing and Obersteiner. Wagner began experimental work in 1891 to obtain evidence of the possible therapeutic worth of tuberculin in paralysis and to perfect the technic of treatment. In 1900 a great many paralytic patients, taken as they came and without choice, were injected with tuberculin. The results were throughout beneficial. There were noted pronounced remissions of very long durations, and it is claimed that the patients who received the injections of tuberculin, as far as could be made out, lived longer than those who did not receive this treatment. Among the patients in his own private practice (where one as a rule gets them in an earlier stage) Wagner says the cures and remissions were even more pronounced. The proper dosage of tuberculin for such treatment ranges from 0.01 c.c. to 0.1 c.c. and is to be regulated according to the condition of the patient. A uniform dose of 0.5 c.c. of tuberculin for a given series of patients was used, however, with good results, with intervals of two days, and the number of injections required by each patient was regulated by his own reactions. In most cases 7 to 12 injections were required. The increase in the dosage can be regulated by the degree of fever reaction. A fever reaction of as much as 39 C. is by all means to be avoided. After trying out a number of combinations of tuberculin injection with antiluetic treatment the course of treatment which gave the best results was determined to be the administration of iodids and mercury along with the tuberculin injection. For the general class of patients who are received at the hospitals in Vienna, this combination, as a routine treatment, proved to be more effective than the simple tuberculin injection. It was not uncommon to notice among the patients during treatment an increase in body weight (which in some cases amounted to several kilos) and other evidences of a general systemic improvement.

Health Supervision of the Public Schools of California.—In 1909 the legislature of California passed a law establishing health and development supervision in the public schools. According to George L. Leslie (*Psychological Clinic*, April, 1910) that law authorizes boards of education or school trustees to establish annual physical examinations of school children with a follow-up service to secure correction of defective development, to require physical examination of all candidates for teachers' positions to determine their vitality and efficiency, to adjust school activities to health and growth needs and development processes of pupils. to study mental retardation, to exercise expert sanitary supervision, to organize a corps of experts in physiology, hygiene and practical psychology who in cooperation with skilled physicians can diagnose defective growth and development. All matters pertaining to contagious or infectious diseases are left to boards of health, but close cooperation with boards of education is aimed at. The law is permissive, not mandatory. A skilled and careful examiner is not restricted, but is left free to uncover any and all causes which interfere with the health, growth and efficiency of pupils and teachers. California is the first state in the union to give legal recognition to this function of the skilled educator. Under this law departments of health have been established at Los Angeles, Pasadena, Berkeley, Oakland, Pomona, Redlands, Hollywood, Monrovia and other cities. A special course of training for educators in the subjects indicated is now in preparation in the University of California; Stanford University is ready to give thorough training to those who wish to become examiners; and the State University of California has inaugurated an admirable course of lectures on school hygiene. The law was intentionally made permissive in order that an educational period should precede its compulsory enactment, which will undoubtedly follow.

Children Allowed to Become Tuberculous.—The Instructive Visiting Nurse Association of Baltimore, on Nov. 1, 1909, had on its visiting list 1.665 tuberculous patients, as reported by Ellen N. La Motte (*Journal of the Outdoor Life*, March, 1910). Of this number 165, or 10 per cent., were children of and under school age. They all had pulmonary tuberculosis, not bone or gland infection. Of these 165, 121, or 73 per cent., came from homes in which there was already tuberculosis, having contracted it probably either from their parents, grandparents, older brothers or sisters, or other relatives living with them, with whom they were in close daily contact. This cannot be scientifically proved, for all other possible sources of infection would have to be excluded, such as casual visitors, milk supply, street dust, etc., but that is the common-sense view of the source of the infection. The problem of prevention is a difficult one, as the disease is often transmitted through the sheer brute affection of the ignorant and selfish—through the sort of affection that feeds the child from the same spoon; that cuddles and pets it through coughing attacks; that puts it to bed to sleep with the sick person, and that is deaf and immovable before all arguments and expostulations. La Motte asks what the value is of an open-air school or of sanitarium treatment, if at the end we allow the child to return to suroundings in which it becomes reinfected. Of course in many instances a real desire to do the correct thing is handicapped by circumstances; but the results of intellectual and of physical inability to comply with the requirements of hygiene are the same. It is the infected home that is responsible for much tuberculosis.

Proposed Legislation in Holland to Restrict Criminal Abortion.—A letter from Holland in the *Wiener klinische Rundschau*, April 3, states that criminal abortion is practiced in that country to a horrifying extent and dozens of young women all over the country are losing their lives in consequence. The law hitherto in vogue requires proof that the fetus was alive at the time, which proof it is impossible to present, consequently criminal abortion has almost invariably escaped punishment. Only in a few cases in which the mother died was a conviction secured on the ground of malpractice. The proposed new bill imposes a penalty for treating a woman to induce abortion whether the intention was stated or not. The maximal penalty, 3 years in prison and a fine of 3,000 gulden, nearly $1,200, is increased by a third when the deed is done for money by a professional abortionist or a medical man. No exception is explicitly made for physicians, but the authorities are quoted as saying that no physician would ever be prosecuted for justified induction of abortion. The bill further provides penalties for advertising preventive measures, or offering them or praising them publicly or unsolicited; physicians have found that induced abortion is the next step when preventive measures have failed. The writer adds that certain misguided philanthropically-inclined propagandists are sending to each newly founded household and to each new mother, addresses where preventive measures can be obtained.

Medical Economics

THE LEAGUE FOR MEDICAL FREEDOM

One of the most encouraging signs of the times is the increasing interest taken in medical and health matters by the newspapers. As an example of good common sense in a lay journal, we quote the following:

"Benjamin Orange Flower, editor of the *Arena*—a periodical which someone characterized as 'having more writers than readers'—is president of the National League for Medical Freedom.

"Now this is a lovely name—just beautiful. But we read further, and discover that the object of the organization is to resist the steady encroachment on our liberties of the American Medical Association. Mr. Flower eloquently puts it: 'The real issue is * * * whether people are going to be allowed to choose their own medical creeds along with their religious and moral creeds, without interference, or whether we are going to have state medicine, as obnoxious as state religion would be.' The evidence of this dastardly conspiracy is the endeavor of the American Medical Association to help on the movement for a National Department of Health.

"Now we are not prepared to assert that it would be well to extend the already comprehensive range of federal activities to the extent which would be necessary in order to establish such a department; but we do desire to reassure Brother Flower and help him to sleep undisturbed by visions of a conspiracy on the part of the 'allopathic' doctors of the nation against his rights as an American citizen. A health department, if organized, would concern itself not with details of the practice of medicine, but with large matters of sanitation. The individual citizen would be left free, when stricken by fever, to take aconite 2nd, under the homeopathic banner, or sulph. quinin 10 gr., under the 'allopathic.' Or he might take fluidextract of calisaya with the eclectics, or a wet pack with the hydropaths, if it so pleased him to do.

"Materia medica and therapeutics vary with the schools. But there is just one pathology, just one histology, just one bacteriology, just one set of aseptic methods known to science. Homeopath and allopath—yes, and osteopath, for that matter—have one technic when it comes to disinfecting a house, cutting off a finger, opening and draining an abscess, or diagnosing a case of cholera, yellow fever or smallpox. The concerns of the public health are those on which all doctors agree. The service of the eminent men of different schools of medicine on boards of health in the western states ought to reassure Mr. Flower—and will, if he will look into the facts."

It is a pleasure to commend the discrimination shown by the *Republic*. Apparently, many editorial writers are unable to distinguish between public medicine and private practice. The fact that the regulation by the state or the federal government of water-supplies and food-products or the regulation and suppression of epidemics by general sanitary measures would not in any sense affect the personal relations of the individual and his physician has not as yet been thoroughly grasped, even by all of our legislators. For obvious reasons interested parties are endeavoring to confuse the issue. Such editorials as that of the *Republic* will go far to enlighten the general public and to define the issues involved.

State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: San Francisco, August 2. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg., San Francisco.

NEBRASKA: State House, Lincoln, August 10-11. Sec., Dr. E. Arthur Carr, 141 S. 12th St., Lincoln.

Colorado April Report

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners reports the written examination held at Denver, April 5, 1910. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Six candidates were examined, of whom 4 passed and 2 failed. Twenty-six candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Colorado	(1909)	82.2
Michigan College of Medicine and Surgery	(1905)	81.4
Woman's Medical College of Pennsylvania	(1908)	83.7
Western Pennsylvania Medical College	(1904)	76
FAILED		
University of Louisville	(1905)	65.4
Ensworth Medical College	(1908)	56.4

REGISTERED ON CREDENTIALS

College	Year Grad.	State Licenses
College of Physicians and Surgeons, Chicago	(1898)	Illinois
Rush Medical College (1879) (1889) (1903) (1909) Illinois; (1906) Montana; (1897) Iowa.		
College of Physicians and Surgeons, Keokuk	(1901)	Wisconsin
University of Iowa, College of Medicine	(1875)	Iowa
Tulane University of Louisiana (1895) Louisiana	(1905)	Texas
Detroit College of Medicine	(1903)	New York
University of Michigan, College of Medicine	(1898)	Washington
University of Maryland	(1878)	Michigan
Central Medical College, St. Joseph	(1905)	Kansas
University Medical College, Kansas City	(1908)	Missouri
St. Louis University	(1909)	Missouri
Marion Sims College of Medicine	(1898)	Iowa
Washington University, St. Louis (1902)	(1909)	Missouri
Ensworth Central Medical College	(1907)	Kansas
llege of Missouri	(1884)	Iowa
ic Medical College	(1891)	Missouri
Medical College	(1898)	Penna.
	(1905)	Penna.
	(1909)	Penna.

The following questions were asked:

ANATOMY

1. Describe the lower end of the humerus. 2. Describe the tibia. 3. Name the muscles inserted into the tendo Achillis and give the origin of each. 4. Give the origin, insertion and nerve supply of the following muscles: Biceps flexor cruris, tibialis anticus, extensor carpi ulnaris, serratus magnus and rectus abdominis. 5. Describe the knee-joint. 6. Describe the ulnar nerve and its branches and name the cervical nerves from which its fibers are derived. 7. Give a short description of the abdominal wall external to semilunar lines. 8. Name the muscles that move the eyeball and the action of each. 9. Give the relations of the right kidney. 10. Give the blood and nerve supply of the stomach.

PHYSIOLOGY

1. Define the mechanical processes of digestion. 2. Name the digestive ferments, giving the origin and functions of each. 3. Give the physical description of the blood, together with causes of its circulation. 4. Give the origin and function: (a) of the red blood cells; number per c.mm.; (b) of the leucocytes; number per c.mm.; (c) of the plasma; (d) of the lymph. 5. Describe the movements of blood corpuscles in the capillaries and explain the phenomena of diapedesis. 6. Name the organs of elimination and tell what is eliminated by each. 7. Describe the process of elimination of urine by the kidney, giving the amount per diem and constituents of normal urine. 8. Define respiration, its purpose and how accomplished. 9. Define a reflex arc. Give example. 10. Give the distribution and functions of the third and fifth cranial nerves.

CHEMISTRY

1. Define (a) physiologic chemistry; (b) pathologic chemistry. 2. Describe two methods of determining the specific gravity of urine. 3. State the source of (a) exotoxins; (b) endotoxins. 4. Define (a) metal; (b) acid; (c) base. 5. Give the formulas of the following: (a) Zinc oxid; (b) ferric chlorid; (c) sesquioxid of iron. 6. Define amphoteric reaction. 7. How would you determine the presence of free HCl? 8. (a) Define the different states of matter. (b) To which does Avogadro's law apply? 9. (a) What is the significance of indican in urine? (b) Explain a method for determining its presence. 10. Give chemical names of following formulas: (a) $KClO_3$; (b) $CHCl_3$; (c) HCl.

PATHOLOGY

1. Describe the bacillus of tuberculosis. 2. Discuss sarcoma of the kidney. 3. Give the pathology of the various forms of pericarditis. 4. Define: Opsonin, vaccine, opsonic index, *Spirochæta pallida* 5. Give the pathology of leukemia. 6. What are the gross autopsy findings of a patient dead with mitral stenosis. 7. What is the morbid anatomy of acute pancreatitis? 8. What is the pathology of pneumothorax? 9. Discuss the various forms of arthritis. 10. What is the morbid anatomy of paralysis agitans?

SURGERY

1. Give the symptoms of traumatic shock. 2. Where does senile gangrene most often occur and what is the usual cause? 3. Give the causes, symptoms and prognosis of fracture of the patella. 4. Describe the method of examination of an injured hip. 5. Give the symptoms of hypertrophy of the prostate gland. 6. Give the etiology and symptoms of renal calculus. 7. Give the symptoms of tuberculous disease of the elbow-joint. 8. Give the differential diagnosis between an inguinal and femoral hernia. 9. Mention some of the connective-tissue tumors, including benign and malignant. 10. Give the symptoms of a T-fracture into the elbow-joint.

TOXICOLOGY

1. Define toxicology. 2. What is an overdose of chloral hydrate? 3. Give symptoms and treatment of overdose of chloral hydrate. 4. Give symptoms and treatment of overdose of lead acetate. 5. Describe postmortem appearance in death from lead acetate. 6. Give symptoms of poison by *Cocculus indicus*. 7. What do you understand by ptomain and ptomain poison? 8. Give symptoms and treatment of ptomain poison. 9. Define nerve poison. 10. Give symptoms and treatment of nerve poison.

SYMPTOMATOLOGY

1. Give differential diagnosis between chronic rheumatism, arthritis, deformans and gout. 2. Define, give cause, symptoms, diagnosis and prognosis of acute uremia. 3. Name five diagnostic symptoms by which you may differentiate between conjunctivitis and acute iritis. 4. Give some of the causes which lead to fatty degeneration of the heart. 5. Describe the various forms of epilepsy, giving

cause, diagnosis, symptoms and prognosis. 6. Define, give cause and symptoms of pyelitis. 7. Give symptoms of ulcerative endocarditis. 8. Give symptoms and changes in the blood in case of chlorosis. 9. Give etiology and symptoms of atrophic cirrhosis of the liver. 10. Give etiology and symptoms of puerperal eclampsia.

OBSTETRICS

1. Describe the uterus, its parts, cavity openings and structure. 2. What is (a) allantois, (b) amnion, (c) funis, (d) meconium? 3. What are the changes in the uterus that take place during pregnancy? 4. What is meant by *abortion, miscarriage* and premature labor? 5. What are the signs of pregnancy and how may they be classified? 6. What hygienic measures are necessary in a case of labor? 7. Describe the methods of resuscitation when a child is apparently stillborn. 8. How would you recognize the R. O. P. position? 9. What is placenta prævia and how and why does it occur? 10. What is *the treatment* of *placenta prævia*, before term and at full term?

West Virginia April Report

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the written examination held at Wheeling, April 12-14, 1910. The number of subjects examined in was 20; *total number of questions* asked, 120; percentage required to pass, 80. The total number of candidates examined was 22, of whom 17 passed and 5 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Louisville............(1908) 80;	(1909)	88
University of Maryland	(1908)	89
Baltimore Medical College............(1906) 81;	(1909)	80
College of P. & S., Baltimore....................	(1909)	87, 89, 91
Louisville and Hospital Medical College..........	(1908)	82
St. Louis College of Physicians and Surgeons......	(1899)	88
University of Buffalo	(1891)	90
Woman's Medical College of Pennsylvania........	(1909)	88
Western Pennsylvania Med. Coll......(1908) 86;	(1903)	86, 89
University of the South	(1909)	81
University of Virginia	(1908)	88

FAILED

College	Year Grad.	Per Cent.
Louisville and Hospital Medical College..........	(1908)	78
University of Louisville	(1909)	65
Eclectic Medical Institute, Cincinnati..........	(1909)	73
Western Pennsylvania Medical College..........	(1909)	78
Meharry Medical College	(1908)	80*

* Fell below 60 in one or more branches.

The following questions were asked:

OBSTETRICS AND GYNECOLOGY

1. Describe puerperal mania. Give cause and prognosis. 2. Treatment for excessive vomiting in pregnancy. 3. What would you carry in your obstetrical bag? 4. Would you rupture membrane? If so, give cause, symptoms and treatment. 5. Give pathology, symp*toms and etiology of septicemia.* 6. Eclampsia: Treatment. 7. What would you do in case of postpartum hemorrhage? 8. Treat case of endometritis. 9. Treat case of *vaginismus.* 10. *Treat* case of fibroma of the uterus.

ANATOMY AND EMBRYOLOGY

1. Name the characteristics of mucous and serous membrane. 2. Describe Scarpa's triangle, giving contents and relations. 3. *Locate* the thoracic duct and indicate what portions of body are drained by it. 4. Give arterial supply of the rectum, naming the branches from *which they arise. 5. Give brief* outline of arrangement and plan of distribution of the sympathetic system. 6. Give superficial and deep origin, course and distribution of facial nerve. 7. Name, describe and make diagram of the bony pelvis, mentioning the peculiarity of the female. 8. How is the true chorion formed? 9. What changes occur in the vascular system at birth? 10. Describe Poupart's ligament and mention its surgical significance in the radical cure of inguinal hernia.

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Define chemical incompatibility in medicine. Give example. 2. How is HgCl formed? What is the danger of giving acid with *it?* 3. How is quantitative *analysis* of the diabetic urine made? 4. What is the quickest and most fatal poison, and is there an antidote? 5. In burning sulphur what is given off? How much should be used in a room 10 x 10 feet? 6. How would you determine organic matter in water? 7. What are *ptomains?* 8. Malpractice: Define it. What does plaintiff have to prove to recover damages? 9. Blood stains: How determine whether human or not? 10. What are the legal requirements in West Virginia to practice medicine?

SURGERY

1. Treatment for rattlesnake bite? 2. What is tetanus, cause and treatment? 3. What may an aneurism be mistaken for? 4. Prepare a quart of normal salt solution. 5. Give methods of controlling hemorrhage. 6. Treat fracture of the ribs. 7. How are wounds classified? 8. What are *symptoms* of shock, treatment? 9. What are the symptoms of appendicitis? 10. Give classification and treatment of burns.

PHYSIOLOGY AND HISTOLOGY

1. What is the mode of production of heat in the body? 2. What do you understand by blood pressure? 3. Define the terms metabolism, anabolism and catabolism. 4. How may the amount of urine be physiologically increased or diminished? 5. Describe physiology of hearing. 6. Describe the functions of the kidneys and name the products excreted. 7. Describe the normal heart sounds and explain cause of same. 8. How many different kinds of blood corpuscles in the human body, and what are their relative numbers in health? 9. How are cells produced? 10. Describe the structure of bone.

PRACTICE OF MEDICINE AND PEDIATRICS

1. Give symptoms and treatment of chlorosis, simple anemia and pernicious anemia. 2. Give symptoms and treatment of syphilis. When would you begin the administration of drugs? 3. Give cause, symptoms and treatment of neurasthenia. 4. *Give* symptoms and treatment of neuritis. 5. Give cause, symptoms and treatment of *pericarditis. 6. Differentiate epilepsy from* hysteria and treat each. 7. Give symptoms and treatment of lobar pneumonia; differentiate from bronchial pneumonia. 8. Give your treatment of asthma. 9. State in detail how you would modify cow's milk. 10. Give cause, symptoms and treatment of membranous laryngitis.

MATERIA MEDICA AND THERAPEUTICS

1. For what purposes are diuretics employed? 2. Describe the therapeutic uses of spartein and state the dose of the sulphate for hypodermic uses. 3. Give the indications for the use of corrosive sublimate internally. 4. What remedies are employed to correct anemic conditions and how are they used? 5. State the precautions which should ordinarly be observed in administering medicines by the hypodermic method. 6. Describe asafetida and outline the physiologic effects. 7. Outline the general treatment of acute articular rheumatism. *Write a prescription* containing at least two ingredients for an adult to relieve pain in acute articular rheumatism 8. Why is atropin *combined* with morphin when the latter is administered? What is *the dose of atropin* when combined with morphin? 9. Write a prescription containing a sedative and an expectorant for a bronchial cough in a three-year-old child. 10. Define a mydriatic. Give three examples, with the dose for the local application in each case.

BACTERIOLOGY AND HYGIENE

1. What *do you* understand *by pathogenic germs?* 2. Give two methods of making bacteriologic diagnosis of diphtheria. 3. Define *a toxin and an antitoxin. 4. What organisms may be found in a* pleuritic effusion and state the significance of each. 5. Discuss water as a transmitter of disease-producing organisms, giving sources of pollution. 6. What are some of the most approved methods for the purification of water for domestic use? 7. Suggest *preventive measures during a typhoid epidemic.* 8. What are the sources of danger from a sanitary view in the use of public buildings and how may these dangers be lessened? 9. Give the prophylaxis of smallpox. 10. What can you say for and against the use of tobacco?

SPECIAL PRACTICE

1. Name the important physical signs of incipient pulmonary tuberculosis. 2. Make a physical examination of heart and blood vessels. 3. Diagnose and treat hypertrophic rhinitis. 4. Describe mouth breathing. Give cause and treatment. 5. Diagnose and treat ulcer *of the cornea.* 6. What is *choked disc?* Give most important cause and treatment. 7. Describe technic of laryngeal intubation. 8. Diagnose and treat foreign bodies in larynx. 9. Diagnose and treat paralysis of the seventh cranial nerve. 10. What symptoms follow a hemorrhage into the internal capsule?

Montana April Report

Dr. William C. Riddell, secretary of the Montana State Board of Medical Examiners, *reports the written* and oral examination held at Helena, April 5-7, 1910. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 48, of whom 38 passed and 10 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago.	(1887)	75
Chicago College of Medicine and Surgery.........	(1908)	75.3
Chicago Homeopathic Medical College............	(1897)	80.9
College of Physicians and Surgeons, Chicago...... (1904) 76.3; (1905) 78.9; (1906) 81.3, 81.7; (1907) 80.4; (1908) 80.5......................	(1909)	81.7
Rush Medical College............................	(1906)	78.3
Northwestern Univ. Med. School....(1906) 84.5;	(1909)	81.9
Hospital College of Medicine, Louisville..........	(1901)	80.2
University of Louisville............(1906) 79.3;	(1909)	84.4
Detroit College of Medicine......................	(1901)	78
University of Minnesota, College of Medicine.... (1902) 79.1; (1905) 76.5......................	(1906)	80.5
[illegible] College..............................	(1898)	75.3
[illegible] College, Kansas City..........	(1907)	75.3
[illegible] College of Kansas City.........	(1903)	82.6
St. Louis University............................	(1909)	79.9
Creighton Medical College.......................	(1909)	75.1
Columbia University, College of Physicians and Surgeons...........................(1908) 77.8;	(1909)	83.1
Bellevue Hospital Medical College...............	(1887)	75
Medical College of *Ohio*........................	(1909)	77.1
Cleveland Homeopathic Medical College..........	(1908)	77.2
Woman's Medical College of Pennsylvania.........	(1908)	80
Jefferson Medical College.......................	(1906)	79.3
Milwaukee Medical College.......................	(1901)	78.4
Queen's University, Kingston, Ontario............	(1905)	84.2
University of Toronto, Ontario...................	(1908)	83.5, 85.2
McGill University, Montreal, Quebec.............	(1900)	80.9
University of Glasgow, Scotland..................	(1899)	86.1

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago......	(1906)	63.8
Northwestern Univ. Med. School....(1899) 69.5;	(1908)	72.7
Chicago College of Med. and Surg..(1904) 68.5;	(1908)	72.1
University of Kansas............................	(1909)	71.5
University of Louisville.........................	(1894)	60.2
University of Minnesota, College of Medicine......	(1902)	70.8
Kansas City Hahnemann Medical College..........	(1909)	72.1
Marion-Sims Beaumont *Medical* College..........	(1903)	62.1

Book Notices

[illegible] Its Practical Application to the Body. By Charles H. Murray, A.B., " etc. Half Morocco. Price, $3.50. [illegible] illustrations. Elgin, Ill., 1909.

This book, written by one who signs himself "Charles H. Murray, A.B., B.D., D.O.," has apparently aroused consternation among the followers of "osteopathy," since the publisher's circular accompanying the book states that the osteopathic publications have made "vicious attacks" on it because "this book will teach medical doctors the practice of osteopathy and all that is best in mechanotherapy and they will be able to use it to great advantage." Quotations from a number of osteopathic publications are also given, characterizing the author as "Judas" and applying to him several other epithets almost as bad, if not as ancient.

Examination of the book fails to disclose any such startling characteristics. The first part consists of about one hundred illustrations representing various manipulations, the plates being accompanied with descriptive matter. The second part, which discusses disease and its treatment, is the application of the manipulations to various diseases. The sheet-anchor of the author in all doubtful cases is what he happily characterizes as a "general treatment." This is given when all other signs fail and when nothing else seems to be in order. It is also advised as the accompaniment of most of the special manipulations recommended.

A number of interesting statements appear, such as the following in relation to typhoid fever: "Osteopathic treatment may be administered with very gratifying results. If begun early, the fever may often be aborted. (See Nos. 61, 62, 32 and 53.) The spine may be gently sprung from the lower part to between the shoulders." In addition to this remarkable treatment, however, the author advises strict attention to diet and bathing.

Regarding malarial fever, Murray says that "marked bony lesions are found oftentimes in persons suffering from the disease and great improvement follows their correction." A "general treatment" seems to be indicated, although the use of quinin is also mentioned in the last paragraph.

Scarlet fever proves somewhat of a stumbling-block, since apparently a "general treatment" would not be of much value here. Numbers 5, 10, 13, 14, 51, 47, 50 and 53 are recommended. Practically the entire category is recommended for grip, probably advisedly. When the author gets to smallpox, however, he does not even attempt to advise "general treatment," but very carefully avoids the subject of treatment. Locomotor ataxia, paralysis agitans, neurasthenia, chorea, exophthalmic goiter, jaundice, arthritis deformans, diabetes and arteriosclerosis all yield apparently to a "general treatment." Even this system, however, is evidently lacking in some particulars, as the author does not make any recommendation at all regarding treatment in a number of diseases. Several interesting statements appear, such as the following: "The outlook in most cases presenting valvular difficulties (of the heart) is not favorable, yet a number of cases have been cured by osteopathic procedure." Just how, the author does not say, but hastens to qualify his statement: "At any rate, most cases may be benefited." In a number of instances, Murray has evidently reached the end of his tether and makes no attempt to suggest osteopathic methods of treatment, but frankly advises the best medical treatment of which he is aware.

If this book comprehends all the "revelations" which this osteopathic "Judas" has to make, the sacred cause of "osteopathy" would seem to have little to "reveal."

THE RELIGIO-MEDICAL M[illegible] Complete Exposure of Christian Science. By [illegible] LL.B., of the Boston Bar. Cloth. Price, $1. [illegible]ess, Boston, 1910.

This little book presents concisely and forcibly the facts regarding Mrs. Eddy and her cult, which, under the name of "Christian Science," Mr. Peabody denounces as the "most shallow and sordid and wicked imposture of the ages." Mr. Peabody is a Boston attorney who represented the Arena Company in 1899 in the suit brought against that magazine for the publication of Mrs. Woodbury's article, as well as in the counter-suit of Mrs. Woodbury against Mrs. Eddy. He was also retained by Rev. Minot J. Savage and later by *McClure's Magazine* to make a legal investigation of the history of Eddyism and, finally, was one of the attorneys in the suit brought by Mrs. Eddy's two sons for the division of her estate. As the Massachusetts attorney in these various cases, he examined under oath many of Mrs. Eddy's most intimate friends as well as the highest officials of the "Christian Science" organization. His knowledge is therefore not based on hearsay or popular belief, but is the result of careful and accurate legal investigation.

Mr. Peabody explicitly states that he publishes his book with full knowledge of the responsibility which he assumes, and that he is willing to substantiate in any legal tribunal every statement which he makes. The significance of this will be realized on reading some extracts from the book: "As I understand her, Mrs. Eddy is the inventor and sole proprietor of the greatest get-rich-quick concern ever conceived. . . . Christian Science never cured any one of anything but imaginary illness; it never relieved any one of any real evil—but his money. Mrs. Eddy, boldly professing to have received a revelation from God, and to be the equal of Jesus Christ, has made upwards of a million and a half dollars out of her enterprise that she calls Christian Science, since she reached 60 years of age." "Christian Science is a 'skin game' and the powers that be in Christian Science are the inner circle of grafters." "Mrs. Eddy's miraculous cures are all frauds, every one of them. She never healed any one of any serious disease. She never in her life had any curative power whatever. . . . Her man, Alfred Farlow, the official, highly paid and carefully coached spokesman of her cult, and its leading press agent, admitted, in response to my questioning and when testifying recently under oath and subject to cross-examination, that he did not know of any cure having been made by Mrs. Eddy of any organic disease in her life, but stiff leg, and he said that in his understanding as a high practitioner of the Christian Science art of healing, a stiff leg is an organic disease."

Mr. Peabody's book is a merciless and unanswerable arraignment of the leaders of this cult.

INFECTIOUS DISEASES. A Practical Text-Book. By Claude Buchanan Ker, M.D., F.R.C.P. Medical Superintendent, City Hospital, Edinburgh. Cloth. Pp. 555, with 66 illustrations. Price, $7. London: Oxford University Press, 1909.

An extensive experience at the Edinburg City Hospital has enabled the author to speak knowingly concerning all except some of the rarer infectious diseases. He has aimed to make his book practical and has omitted, therefore, much concerning the etiology, bacteriology and pathology. Bibliographic references also are seldom given. The result is a text-book that is eminently suited to the needs of the practitioner—a book in which the emphasis is laid on diagnosis, prognosis and treatment. It must not be inferred, however, that pathology and bacteriology are overlooked. On the contrary, they are clearly discussed, though in a succinct rather than an exhaustive manner and with especial reference to the practical bearings of these topics. For instance, the bacterial side of diphtheria and cerebrospinal meningitis is excellently handled, with minute directions as to the diagnostic help that comes from the early identification of the organisms in a given case of illness. Excellent plates show the appearance of the stained micro-organisms. In fact, one may say that all the numerous plates and charts in the book are unusually well executed and are especially serviceable in illustrating the rashes of the eruptive diseases or the organisms of the infections.

Dr. Ker is a believer in the old-fashioned methods of diagnosis by means of the history and by physical examination; by a study of tongue, pulse, facies, course of temperature, characteristics of the rash, etc. He does not, however, neglect the laboratory side; he discusses fully the value of blood-counts in the various diseases—for instance, leukopenia in typhoid, lymphocytosis in whooping-cough, the importance of lumbar puncture, serum reactions, a study of the urine, etc. But all this is done in such a well-balanced manner that the reader feels confidence in the author as one whose theoretical knowledge has been prevented from running into extravagant channels by the logic of a judicial mind and the curb of bedside experience. The laboratory and bedside experiences are, as they should be, closely correlated.

The title of the book is, in a sense, a misnomer, for only some of the infectious diseases are discussed. There are considered only those diseases treated at the Edinburg City Hospital. Many diseases commonly classed as infectious are omitted; for instance, those due to animal parasites as malaria, amebic dysentery, trichiniasis and others. Pneumonia, tuberculosis, syphilis, yellow fever, rheumatism, tetanus, cholera, septicemia, are not included.

The book is beautifully printed, well bound, and is one that can be recommended to the general practitioner as a safe, sane and up-to-date guide.

The Optic Nerve and the Accessory Sinuses of the Nose. A Contribution to the Study of Canalicular Neuritis and Atrophy of the Optic Nerve of Nasal Origin. By Prof. A. Onodi of the University of Budapest, Member of the Hungarian Academy of Sciences. Authorized Translation by J. Luckhoff, M.D. Cloth. Price, $3.50 net. Pp. 101, with 50 illustrations. New York: William Wood & Co., 1910.

The results of ten years of study by the author of the anatomy of the nasal accessory sinuses and their relations to the optic nerves are summed up in this book. The first part treats of topographic anatomy and considers the numerous variations in position and size of the ethmoidal cells and the sphenoidal sinuses in their relation to the optic canal. These variations are arranged arbitrarily in twelve groups, each of which has some distinguishing features. Each group is well described and beautifully illustrated by reproductions of photographs (natural size) of specimens hardened in formaldehyd solution and so sectioned as to be very instructive. This English edition contains nearly twice as many illustrations as appeared in the German edition of 1906.

The second part deals with clinical considerations of the subject. While it is admitted that the pathologic data to prove the production of visual disturbance by sinus disease are deficient, the author thinks that we are warranted in drawing conclusions from the clinical evidence at hand, and this he presents rather extensively. That disease of the accessory sinuses of the nose may at times cause optic neuritis either by direct extension of an inflammatory process or by some toxic influence can hardly be doubted, but that this is any more than an infrequent occurrence can hardly be accepted. The subject is one of especial interest to the ophthalmologist and rhinologist, to whom this book will be attractive.

The Care of the Child. By Mrs. Burton Chance. Cloth. Price, $1. Pp. 242, with illustrations. Philadelphia: The Penn Publishing Co., 1909.

The author states in the preface that this book is not intended to take the place of medical advice, but to help the inexperienced mother in the little things which are so important in the child's daily life. This idea is carried out; the teaching is practical and the language simple. The chapter on artificial feeding is good; and the necessity for strict cleanliness of all bottles and utensils used is emphasized. The proper care of the child in the simple disturbances of childhood is described, and the administration of "patent medicines" is condemned. Nursing in contagious diseases is discussed briefly. The upbringing of the child, apart from the physical development, is gone into at some length, and the necessity for absolute truthfulness on the part of the parents is emphasized. The book is to be commended and might be read with profit by all parents.

The Sexual Life of Woman in its Physiological, Pathological and Hygienic Aspects. By E. Heinrich Kisch, M.D., Professor of the German Medical Faculty of the University of Prague. Only Authorized Translation into the English Language from the German by M. Eden Paul, M.D. Cloth. Price, $5. Pp. 686, with 97 illustrations. New York: Rebman Company [1910].

This is another of the numerous books along this line which have appeared in the last few years. Apparently, the subject has been fully covered already and the need of further work thereon is not apparent. Dr. Kisch has assembled a large amount of matter, consisting mainly of references to the works of others. Those desiring a summary of authorities on this subject can find it in this volume.

Medicolegal

Learning, Skill, Judgment and Care Required of Surgeons—Limit to Responsibility in Injured Limbs—Admissibility of Skiagraph Taken Years After Accident

The Supreme Court of Colorado says that, according to the testimony in Bonnet vs. Foote (107 Pac. R. 252), a malpractice case brought by the latter party, the plaintiff fell on the sidewalk in the evening, was removed at once to her room, and had the defendant called. He arrived within a few minutes, found that she was suffering severe pain, and told her that he was afraid she had suffered a fracture, but that he would not make an examination until morning. The next morning he called, examined her hip by feeling it with his hands and concluded that the injury was a severe bruise, not a fracture. It further appeared that he called and treated her twice a day for about two weeks, then once a day for about a month, and after that occasionally for about two months, as for a bruise. He made frequent examinations of the injured limb and measurements for the purpose of ascertaining whether or not it was shortening, but at no time regarded the injury as anything more than a severe bruise. The plaintiff was confined to her bed for about four weeks. At the end of that time she was able to sit up a short time each day, gradually increasing it. In a few weeks she was able to walk with crutches, and used crutches or a crutch and a cane for about 18 months after her injury, and then a cane only. She suffered more or less pain for something like two years, at the end of which time it passed away, but occasionally would return. It also appeared from the testimony that the injured limb was shortened, that it was not as strong as before the injury, and that she could not use it with the same degree of facility she could before it was injured.

A physician and surgeon called on behalf of the plaintiff testified that about five years after her injury he made an examination of her right limb and found from such examination, aided by an *x*-ray photograph of her right hip, that she had sustained a fracture of the neck of the femur of the right limb. He also detailed the method usually adopted by surgeons for the purpose of ascertaining whether or not when the hip is injured a fracture exists, while from the testimony it appeared that the defendant did not adopt that method or do anything more in the way of examining the injured limb than already stated.

In the absence of a special contract, the law implies that a surgeon employed to treat an injury contracts with his patient, first, that he possesses that reasonable degree of learning and skill which is ordinarily possessed by others of the profession; second, that he will use reasonable and ordinary care and diligence in the exercise of his skill and the application of his knowledge to accomplish the purpose for which he is employed; and, third, that he will use his best judgment in the application of his skill in deciding on the nature of the injury and the best mode of treatment. He is not responsible for want of success unless it results from a failure to exercise ordinary care or from want of ordinary skill. And, if he possesses ordinary skill and exercises ordinary care in applying it, he is not responsible for a mistake of judgment.

Applying these well-settled principles of law governing the liability of surgeons, it is at once apparent from the facts that the failure of the defendant to properly diagnose and treat the injury to the plaintiff's hip was inexcusable. That the bone was fractured cannot be doubted. The evidence of such fracture was plain from the fact that the plaintiff's foot lay over on one side, to which the attention of the defendant was directed, so that one of two conclusions is inevitable: Either the defendant did not possess that degree of learning and skill which the law requires of surgeons; or, if he did, he failed to exercise ordinary care in applying it.

It was urged that the court erred in admitting the evidence of the physician above referred to, for the reason that his examination of the plaintiff was made some five years after the injury, and that the condition of the injured limb at that time was not competent to prove that it was the result of the defendant's treatment, or failure to properly diagnose her injury. Unskillfulness cannot be established by proof of the result of treatment alone. Improper treatment must be shown by other evidence. But this rule was satisfied in this case. There was other testimony with respect to the condition of the limb shortly after the injury and during the period the defendant was treating it, which at least tended to prove that the bone had been fractured, and the testimony of the physician to the effect that from his examination he found that it had been fractured was competent as tending to corroborate the testimony on the part of the plaintiff that its condition after the injury was such as would be caused by a fracture.

Moreover, the court does not agree with the contention that it was error to admit in evidence the photograph of the injured limb, the "skiagraph" as it was termed, for the reason that it was taken several years after the accident. That it was taken long after the injury would be proper to be considered in determining the weight which should be given it; but that would not affect its competency.

Nor does the court accept the view that it was error to admit testimony of the shortness of the injured limb. A surgeon is required only to restore an injured limb to that degree of perfection which would result from the exercise of that degree of skill in treating the injury which is ordinarily possessed by members of the profession. As previously stated, a surgeon is not responsible for want of success unless it is the result of a failure to exercise ordinary care. Neither is he responsible for a mistake of judgment if he possesses ordinary skill and uses reasonable care in exercising it. The fact that an injured limb is defective after the patient has recovered is proper to be considered in an action for malpractice, although it is not prima facie evidence of negligence of the surgeon treating it, or, as some authorities state in substance, the mere fact that an injured limb is imperfectly healed does not of itself establish that the surgeon treating it was guilty of negligence. However, neither of these rules of law in the circumstances of this case rendered the evidence under consideration incompetent. The claim of the plaintiff, and as the evidence established, was that the defendant did not treat her for a fractured bone, but for a severe bruise, and that he improperly diagnosed her injury. The bone was fractured. From the evidence it appeared that the defendant should have discovered this fact. So that the result which would follow his failure to properly diagnose and treat the injury was competent for the purpose of establishing the damages sustained.

A judgment for the plaintiff for $1,500 affirmed.

Validity of Information and Admission of Evidence as to Use of "M.D.," Etc.

The Supreme Court of Washington says, in State vs. Hanover (107 Pac. R. 388), that its former decision in that case P (reported in 104 Pac. R. 624, and in the Medicolegal Department of The Journal, February 26, 1910, on page 738), was wrong. There was no appearance by the state. It was urged by the defendant that the statute under which he was informed against, namely, section 8, page 119, of the session laws of 1889-90, had been repealed between the date when the offense was charged to have been committed and the date of the trial, by an act of the Legislature regulating the practice of medicine and surgery, which, by reason of an emergency clause, took effect March 18, 1909, which was before the trial and conviction of the defendant. This court took that view of the law, and the judgment of the lower court was reversed. But chapter 6 of the session laws of 1901 was not called to the attention of the court, and was inadvertently omitted from consideration. On the occurrence of that statute to the minds of the court, on its own motion, it set the case for a rehearing and called on the attorney general to appear in behalf of the state, which he did by both brief and oral argument. The provision above referred to is that: "No offense committed and no penalty or forfeiture incurred previous to the time when any statutory provision shall be repealed, whether such repeal be express or implied, shall be affected by such repeal, unless a contrary intention is expressly declared in the repealing act, and no prosecution for any offense or for the recovery of any penalty or forfeiture, pending at the time any statutory provision shall be repealed, whether such repeal be express or implied, shall be affected by such repeal," etc. This act being constitutional, it must be seen that the former opinion of the court was wrong on the point on which it was based, and it therefore becomes the plain duty of the court to reverse its former decision so far as it was based on the proposition discussed therein.

The defendant urged, however, that his conviction should be reversed because it was alleged there were two forms of offense proven; that the testimony as to the use of the letters "M.D.," and certain other indicia of practice should have been excluded, and that the requirement of the statute that the indictment or information must charge but one crime, and in one form only, except in certain instances, had been violated. But the information showed that there was no attempt to charge more than one crime. The substantive charge was practicing medicine without a license, and these other matters that were introduced were simply evidentiary, tending to prove the commission of the substantive charge. Even if it should be conceded that they were immaterial, the testimony would be harmless, for the defendant openly confessed that he had no license, and positively declared that he would not comply with the requirements of the medical board, because he did not deem them just. It seems plain from the whole record that the judgment of conviction should be affirmed, and it is so ordered.

Society Proceedings

CONNECTICUT STATE MEDICAL SOCIETY

One Hundred and Eighteenth Annual Meeting, held at New Haven, May 25-26, 1910

Officers Elected

The following officers were elected to serve for the ensuing year: President, Dr. Frank K. Hallock, Cromwell; vice-presidents, Drs. Edmund P. Douglass, Groton, and E. T. Bradstreet, Meriden; secretary, Dr. Walter R. Steiner, Hartford (reelected); treasurer, Dr. Joseph H. Townsend, New Haven.

The society will meet next year at Hartford, May 24-25, 1911.

Diagnosis of Insanity

Dr. J. M. Keniston, Middletown: To determine the existence of insanity or a psychosis, the examiner should pursue a systematic course. Hence, he should get as complete a history as possible. He should first find out just what the patient sees and hears or feels or smells, and whether things are really what they seem to him. Disturbances of memory are next to be noted. Disturbances of the train of thought may be exhibited and noted during the tests of perception, apperception and memory. Judgment is the loftiest and most complicated of the mental faculties. One can test the patient's judgment in a general way by submitting to him various problems concerning proper conduct, morality, business, etc. It is not enough to know whether he knows right from wrong, and the nature of a criminal act. We should ascertain whether he has lost, wholly or in part, the finer feelings that modern civilization has evolved and society demands. The full fruition of volition depends immediately on an antecedent idea. Acts performed without a definite idea are not volitional, but reflex. The above details help us to determine the general conduct and show its deviation not only from the patient's norm, but from the standard imposed to-day by society. When the general practitioner has obtained possession of all these facts and arranged his material, he will be in a position to demonstrate to the proper authorities or to his confrères or to the friends of the patient the existence of insanity. At the Connecticut Hospital for the Insane, up to Oct. 1, 1908, 12,823 patients were committed; and 97 of these, or 0.75 per cent., were diagnosed not insane. In these 97 cases, a temporary disturbance was mistaken for a more permanent derangement.

DISCUSSION

Dr. M. Mailhouse, New Haven: If the physician will but bear in mind that dementia paralytica often begins with neurasthenic symptoms, and will always make his diagnosis by the process of exclusion, he cannot go wrong. In those in whom there may be a doubt as to whether the trouble is insanity or crime, it is of the highest importance to determine whether the conduct and character deviate from their own norm, as well as from the standard imposed to-day by society. To determine this point, it is necessary to question not only the patient's nearest relatives, friends and associates, but also those absolutely disinterested. The statement of the large percentage of transitory mental disturbances that have appeared in the State Hospital for the Insane seems to me to be a strong argument for the establishment of psychopathic wards in general hospitals.

Dr. W. E. Fisher, Middletown: Despite the fact that we all recognize that the question of the mental health of a community and its preservation are of vital importance, I have knowledge of only one medical college that affords instruction in psychiatry and makes it a part of the curriculum. It would hardly seem necessary to emphasize the necessity of more active cooperation between the alienist and the general practitioner, were there not abundant evidence of a lack of community of interests. It is no less possible to group symptoms of the different psychoses so as to afford typical clinical pictures than it is to group the symptoms of a respiratory or cardiac disease. Much of the difficulty formerly experienced in obtaining clinical pictures of the different psychoses was due to the inadequacy of the methods pursued in restricting the study of the disease to the minute analysis of symptoms at some given period, instead of studying the entire course of the disease. Guard against falling into the habit of seizing on certain symptoms, ignoring others and making the clinical picture fit some arbitrarily constructed frame.

Dr. George N. Lawson, Middle Haddam: I understood Dr. Keniston to say that a man is really responsible for his crimes, very often, even though insane. It seems to me that the family physician is in a position to say more readily than a stranger whether the patient is insane or not, whether he has passed from his own norm and the recognized standards of the day. He can be of great assistance to the staff physicians at the hospital, if he will write up the history and give it to these physicians, along with the certificate of insanity.

Instructions to Patients Suffering from Specific Urethritis.

Dr. P. D. Littlejohn, New Haven: In order to overcome the difficulty of not having my instructions accurately followed by patients, I have prepared some leaflets containing careful directions. I have tried to make the statements contained in them as terse and as clear as possible, and at the same time emphatic. Gonorrhea is not the slight complaint that many consider it. Alcohol must be strictly avoided. Exercise should be taken, but all forms of violent exertion should be avoided. A careful cleansing of the nails and hands is imperative after the gauze dressing is handled. All infected persons should sleep alone, if possible, and all toilet articles must be for their own exclusive use. Particular attention should be given to the alimentary tract, in order to avoid constipation. Few realize the value of drinking large quantities of water and the free urination which this causes. Patients in the acute stage must have a milk diet, so far as possible; and as the disease improves, the diet may be increased. The patient should be cautioned to keep reasonably quiet after the day's occupation is finished. The proper technic in the use of the hand injection should be properly explained. Though I believe that we can cure all patients with anterior infection and am optimistic regarding the chronic cases, provided the directions are fully followed for as long a time as necessary, I also believe that cases so treated will not infect other people; yet until all the gonococci can be proved to have disappeared, we are scarcely justified in making a positive statement to that effect when matrimony is contemplated.

DISCUSSION

Dr. F. H. Coops, Bridgeport: Dr. Littlejohn's plan of putting into the hands of the patient printed slips describing the points of the home treatment of gonorrhea, I have been carried out with splendid results. For some time I have been thinking of getting out such a set of printed instructions, and I shall copy the set presented, making a few changes to suit my individual fancies. The instruction: "You should drink all the water possible," I should have put in bold type, for instance. When the urethra is washed out every half hour not enough discharge accumulates to require the use of any dressing at all. The request that the patient come to the office with a plentiful supply of urine in his bladder is of the utmost importance from a diagnostic and prognostic standpoint. I believe, too, that patients should be instructed as to the import of these various urethral shreds, etc. The disease, under the best of conditions is a difficult one to cure.

Dr. C. S. Stern, Hartford: The total elimination of red meat would in some cases retard the cure by reducing the patient's resistance. A patient is much more likely to renew a small bit of cotton than a large piece of gauze. Unnecessary handling always increases and continues the local inflammation. I should add as a conclusion to the other instructions and in heavy type: *"Don't stop treatment until you are completely cured."*

Dr. G. Blumer, New Haven: It is now known that the white meats have rather more extractives than the red. If meat be stopped, it should be meat of all kinds.

Dr. R. A. McDonnell, New Haven: I have been unable to satisfy myself that diet has any influence on gonorrhea after the acute part of the infection is over. I think that the drinking of water should be controlled during the latter part of the evening.

Dr. Littlejohn: I was aware that white meats have more extractives than red; but I knew that if my patients did not eat red meat, they would get very little meat of any kind. People with a recent infection, never having had any previous trouble of this kind, should be told what to avoid in the way of eating; in chronic cases it does not make nearly so much difference.

Management of Syphilis

Dr. Alfred G. Nadler, New Haven: I do not believe that syphilis is on the increase. Treatment should be commenced as soon as the diagnosis is made, which is usually at the first visit or very soon thereafter. The microscope will almost invariably make or confirm the diagnosis of chancre. The chancre should be excised, but the patient should be subsequently treated just as if this operation had not been attempted. Mercury may be given externally, internally and by injection. The internal administration should not be resorted to unless conditions prevent the use of inunctions or injections. Treatment by suppository is also inefficient. Administration by inhalation is one of the best methods. I have had no experience with intravenous injections. The advantages of intramuscular and subcutaneous injections are that there is greater regularity of treatment, the absorption is more certain, the stomach is left free for the reception of other medicines, there is less chance of stomatitis, the physical effect is more marked, and they are convenient for the patient. Pain may accompany the injections; and sometimes a deposit of mercury is left, which suddenly absorbs, producing poisonous symptoms. The intramuscular injection of insoluble salts produces a deposit which is slowly absorbed and slowly eliminated; when injected subcutaneously, the salts are absorbed and eliminated more rapidly, and should be used when a prolonged action is required; but the intramuscular injections have a more profound effect on the deeper manifestations of syphilis. The first two years of treatment is the most important period for the patient, but treatment should be actively pursued for at least five years. One should watch carefully for complications. I consider inunctions preferable to injections, and believe that it is better to treat too long than not to treat enough.

DISCUSSION

Dr. R. A. McDonnell, New Haven: I always find it inconvenient to cut the chancre out, and one cannot promise the patient that cutting it out will do any good; so I do not see any advantage in insisting on it. I do not find it so easy to discover the spirochetes with the microscope as is indicated by the paper; so I am not able to make the diagnosis by means of the microscope, although it can be done with proper technic. I am not sure that my inability to find the spirochete does not work to the advantage of the patient, as I believe that, unassisted, the system acquires a certain power of opposition to the disease as time goes on. It is well to let the patient go untreated for a time, even when the diagnosis is made. My preference is for the injection of an emulsion of metallic mercury, of which I have given over 1,000 injections, without untoward results. I have seen various late manifestations of the disease, and even total blindness, years after the infection, controlled after a few injections.

Dr. Thomas M. Bull, Naugatuck: Physicians should be more careful to diagnose syphilis. If one contagious case be left undiagnosed, an untold amount of harm may be done. Inasmuch as 99 per cent. of medicine is given by the mouth, and as this is the natural way for anything to enter the blood, I must confess to a predisposition for this method. There is little danger of irritating the digestive tract, if the patient is seen frequently and the dose graded carefully. Although the disease is capable of producing the most terrible consequences, I believe it to be the most easily treated of any of equal gravity. I should strongly advise any patient who has ever had syphilis to take a month's mixed treatment every year, whether symptoms have developed or not. The best treatment must be prophylactic.

Dr. Charles C. Beach, Hartford: In treating syphilis successfully, it is absolutely essential to make the diagnosis early. I presume that the ideal treatment is by injection or inhalation, but I never use either of these. We get sufficiently good results from the internal treatment by the mouth, and I have found no difficulty in giving the protoiodid. We are supposed to keep as professional secrets the names of those who suffer with syphilis, but I believe that cases of this disease should be reported with the same care as cases of scarlet fever or any other contagious disease.

Dr. Oliver C. Smith, Hartford: The place for such patients is in the hospital, in bed on their backs. They have no right to go about disseminating the disease. We should try to educate the communities in which we practice concerning the great importance of these two terrible infections, gonorrhea and syphilis.

Dr. Rienzi Robinson, Danielson: Does Dr. Nadler prefer mercurial treatment to the iodid for the tertiary manifestations of syphilis?

Dr. C. S. Stern, Hartford: I do not believe that at present the Wassermann reaction has the same standing among physicians that it had a year ago. Either positive or negative, it is not to be depended on.

Dr. Percy D. Littlejohn, New Haven: I thoroughly agree that gonorrheal patients are better off in the hospital, but one cannot keep syphilitic patients there.

Dr. Nadler: The Wassermann reaction is not considered so valuable now as it was formerly. I mentioned in my paper that negative reactions do not indicate a cure of the disease. I should treat the tertiary manifestations with intramuscular injections of calomel, and give potassium iodid. I did not enter into the sociologic question at all. Chancre may be located when it can be conveniently removed; and in that case, its removal will eliminate a host of infecting agents. I think that the spirochete can be readily discovered under the microscope with the so-called dark-ground illumination.

Anatomy and Clinical Importance of the Subdeltoid Bursa

Dr. P. P. Swett, Hartford: Lesions of the subdeltoid bursa are more frequent than other lesions in this region, including fracture and tuberculosis of the shoulder. The old term, periarthritis of the shoulder, is not definite, and usually refers to subdeltoid bursitis. The exposed position and peculiar function of the bursa render it especially liable to inflammation. Although the vast majority of cases are best treated by excision of the bursa, there are many instances in which limitation of motion does not exist; and treatment of this class of cases by means of rest, massage and counterirritation is usually sufficient. A diagnosis of rheumatism, tuberculosis, paralysis, ankylosis or neuritis should not be made until the possiblity of subdeltoid bursitis has been excluded.

DISCUSSION

Dr. E. W. Arnold, New Haven: The investigations regarding the subdeltoid bursa are the logical outcome of the investigations regarding the behavior of bursæ in general. The bursæ at the knee-joint inflame without cause. There are a certain number of cases in which no great trauma has been received, and repeated slight trauma from kneeling cannot be held responsible for the chronic inflammation of the patellar bursa. There must, then, be accepted the possibility that these bursæ partake of the same inflammations that the joint itself is liable to have. All infections leave the bursa permanently thickened; and such a bursa must be not only useless, but a great hindrance to the function of the joint. It should be removed, if the impediment to the joint is mainly due to the bursa. We all know that a good many cases will clear up under other treatment, however, than operative interference.

Dr. A. G. Cook, Hartford: Here is a new bursa that must be reckoned with. All that is true of the other bursæ is true of this one. Fixation *per se* has never been proved to cause the inflammation of any bursa; but if the arm is fixed in such a position as to cause pressure, that pressure will be trauma. I have given prominence to this point, in order to show that we need not be afraid to fix any of these points, if necessary. There are times when an inflamed joint will do better at rest, and other times when irritation is desirable.

The Ideal Nose and Pharynx

Dr. F. W. Wilson, Bridgeport: The amount of air passing through the nose and pharynx in a year must be reckoned in millions of cubic feet. An obstruction having almost no influence in a single inspiration may have great influence in a million inspirations. This is also true of nasal cavities that are too large. Laboratory experiments give expired air a much lower percentage of micro-organisms than inspired air, most of the organisms having been deposited on the moist mucous membrane of the nose and pharynx, and being subsequently blown on to the handkerchief or expectorated. The nose and pharynx might also be called the filtration apparatus of the air. These organisms rarely breed and do harm on a plane surface; they must have some hiding-place where they can lodge and multiply. The ideal nose and pharynx contains as few of these hiding-places as possible. We as physicians are not fully alive to the importance of the existence of small, unnecessary hiding-places and of their complete obliteration by surgical means.

DISCUSSION

Dr. D. Smith, Bridgeport: Nasal surgery for the prevention of consumption is, at first thought, somewhat startling. For some years, however, I have been making careful search for small defects in the nose and pharynx and obliterating them. We are used to the correction of large defects; but the idea of making an ordinarily well person perfectly well by paying attention to small defects, is a further step in development. The acquisition of a good nose and pharynx not only gives one practical freedom from colds, catarrh, sore-throat and the air-borne diseases generally, but also gives one a higher level of health; and this may be given to almost anyone who will take the time and trouble to have done those little bits of surgery that make the nose and pharynx approach the ideal. In cases of the removal of tonsils and adenoids, I am satisfied that the certainty of permanent cure and ideal end-results is to be found, not in thoroughness in extirpating tonsil tissue, but in thoroughness in searching out crypts and pockets and recesses that will admit a probe, and in converting them into shallow saucers by trimming their edges. In small tonsils it is the pockets and adhesions, and not the smooth tonsil tissue, that make the trouble.

Dr. Wilson: We have definite and positive evidence that these small pockets are of importance in influenza, hay fever, asthma, and other minor diseases. We have not the clinical evidence, however, that they are important in pneumonia, tuberculosis, and other general diseases; and this is the point on which we need the help of the general practitioner.

(*To be continued*)

AMERICAN ASSOCIATION FOR CANCER RESEARCH

Meeting held at Washington, D. C., May 2, 1910

Spontaneous Cure of Carcinoma.

Dr. Guthrie McConnell, St. Louis: Carcinomatous growths without doubt do undergo regression, both spontaneously and after operations that do not completely remove the tumor. This may be due to the formation of connective tissue with necrosis and absorption of the cancer cells. Spontaneous disappearance is frequently seen in the tumors of mice. It also probably occurs more often in human beings than is realized. In the histologic examination of mouse tumors the more necrotic portions are in the immediate neighborhood of areas of hemorrhage, indicating that there may be some relationship between the two. The cells of all animals may be able to elaborate protective substances that enable them to resist infection. In mice it has been found that those which have recovered spontaneously are immune to further tumor inoculation. It is well known that many cells possess the power of forming ferments or enzymes which can bring about the destruction of proteid bodies. Many of these cells, when separated from their normal position, may undergo autolysis as a result of the action of elements set free by the degenerative changes. Petry has shown that the autolytic ferments are particularly active in carcinoma. In the mechanism of protection against the invasion of foreign cells, two factors are concerned—one, the protective ferments of the invaded body: the other, the enzymes of the tumor cells capable of exerting an autolytic action. Theoretically, cancer might be controlled either by increasing the activity of the body enzymes or by enhancing the power of the autolytic ferments of the tumor cell. The regression of tumor nodules may be due to the setting free of autolytic ferments as the tumor cells die from imperfect nutrition.

That recovery does occur, is shown by the reports of numerous observers. This is shown particularly well in the cases of Mackay and of Hodenpyl, in which the two patients, who had carcinoma of the breast with extensive metastases and were apparently on the point of death, regained their health almost completely. This occurred after marked collections of fluid had appeared in the pleural and abdominal cavities, respectively. It would seem that these fluids contained some substance that would bring about the destruction of the tumor cells. This was clearly shown by the experiments of Hodenpyl, who first injected the ascitic fluid from his case into mice that had been inoculated with cancer. As a result of this, the tumors underwent necrosis and either diminished in size or completely disappeared. He then employed the same methods in human beings with similar results, the effect being very much the same whether the fluid was injected into the tumor, into the adjacent tissue or into a vein. In no instance did any tissue in the body, other than the tumor, show the least reaction after the injections, nor were any systemic effects manifest even after large venous infusions. Hodenpyl's experiments indicate that there is some substance present in this proteid exudate that exerts an active influence on the growth. The curative action of the serum in these instances of regression of malignant growths is apparently not so much of an antitoxic nature as it is that of a lysis of specific cells.

Studies on Immunity in Cancers of the White Rat

Dr. Y. Levin, New York: This research consisted in the treatment of animals by various methods in order to create a condition of immunity to cancer growth, without the assistance of living cells. The first series of experiments consisted in the treatment with arsacetin. Forty rats were treated for six weeks by hypodermic injections, first every two days and then every four days, of 1 c.c. of 4 per cent. solution of arsacetin. Three weeks after beginning of treatment, tumor was inoculated. The results were negative. In the next series twenty animals received an injection of sodium oleate, followed by an inoculation of tumor. The tumor took in 77 per cent. of the treated animals and in 100 per cent. of the controls. While the results are not absolutely positive, they indicate that some influence of lipoid substances may be found in subsequent studies.

A great deal better results were obtained by treatment with autolyzed liver tissue of the rat, before and after the inoculation of the tumor. Of the 60 treated animals, the tumor took only on 34 per cent., while it took in 85 per cent. of the controls. In the next series of experiments an abdominal incision was made in a rat, and all the vessels of the spleen were ligated. The animals were inoculated with tumor either before or after the operation. This method was used because sufficient spleen tissue cannot be obtained from a white rat for the usual method of autolysis. The results showed that the immunizing influence of such a ligated spleen is not as strong as the influence of autolyzed liver injected subcutaneously, and also that it has no effect if the operation is performed after the tumor is inoculated. Furthermore, in the course of a study of the different phases of atreptic immunity, the unexpected result was obtained that rats may be immunized, by treatment with normal mouse tissue, against subsequent inoculation of rat tumor. Of the 40 animals thus treated, the tumor took in 37 per cent. only, while it took in 90 per cent. of 40 control animals.

The most important conclusion which may be reached from this series of experiments is that this immunization cannot be due to life activities of the cell, but may also be obtained by treatment with enzyme-like constituent substances of the cell.

Dr. Richard Weil, New York: I am not certain as to the difference when you use autolyzed tissue or non-autolyzed tissue. All such tissue is immediately invaded by leucocytes, and the ferments of leucocytes break it up in the same way as do autolytic ferments. The question is whether there is any theoretic or fundamental difference in autolyzing tissues before you inject them or in permitting them to be autolyzed by injection. Another question is with regard to the normal process of absorption of tumors as regards immunity in rats. Is there autolysis in these tumors? Are they broken up by white cells, or do they simply disappear? Is there a preliminary autolysis, or is there invasion by white cells, or are they simply absorbed by some process which we are not able to explain?

Dr. Y. Levin: Tissue aseptically removed from one animal and put into the skin of another animal undergoes autolysis. Ehrlich and Bashford assert that it is the living cell that immunizes, and their proof consists in crushing and freezing the cell. In order to prove that their negative results were due to too severe an injury to the cell, I produced the autolysis outside the body, and then produced immunity. As for the influence of leucocytes on autolytic ferments, autolytic ferments and endocellular ferments are not identical. Autolytic ferments are liberated on the death of the cell or immediately after its death, while, most probably, intracellular ferments are there before the cell dies. If you will put liver in the thermostat for a week or ten days, you will find proteolytic reaction, indicating the presence of enzymes, although you will have no living leucocytes there.

Transplantation of Retrogressing Tumors

Drs. A. Strickler and Leo Loeb, Philadelphia: Having observed that a certain number of transplanted tumors retrogressed spontaneously after an initial period of growth and that the number of such retrogressing tumors can be increased considerably and at will, if the tumor material before inoculation is experimentally decreased in virulence by subjecting it in the test-tube to the influences of certain chemical and physical injurious factors (heat), we examined the power of growth of such retrogressing tumors after transplantation into new hosts. In the mouse, we found that after transplantation retrogressing tumors grew on the whole less vigorously than well-growing tumors; but they sometimes grew, and it was found that they may recover their full virulence, sometimes in the first generation, sometimes later. In eleven control experiments in which 47 dogs were inoculated with growing tumors, tumor growth resulted in 31 dogs (approximately 69 per cent. positive results), in four experiments in which four retrogressing tumors were inoculated in 13 dogs only two growing tumors were obtained, and one of these two tumors soon retrogressed spontaneously (approximately 15 per cent. positive results). In such retrogressing lymphosarcomata we also found that, at least in the earlier stages of retrogression, mitoses may still be present in the tumor cells, notwithstanding the retrogression.

The results obtained in transplanting such tumors prove undoubtedly that retrogressing tumors are on the whole weakened in their capacity for growth, and that the decrease in the virulence of such tumor cells varies in different cases. This does not exclude the possibility that at early stages of retrogression or under otherwise very favorable conditions, a good tumor growth may even be obtained after transplantation of retrogressing tumors. After further transplantation a recovery of virulence may take place. The weakening of the cells of retrogressing tumors suggests that certain injurious substances circulate in the body fluid of animals which are the bearers of such tumors, notwithstanding the fact that it may be impossible to prove directly the presence of such substances.

Preliminary Results Obtained by Treating Cancer with *Ascitic Fluid*

Dr. S. P. Beebe, New York: The fluid used in these experiments was obtained from a case of cancer primary in the breast with metastases in the liver. The progress of the disease had at all times been slow, but since the production of the ascitic fluid there has been no progress at all. The patient has been in good physical condition and has, as far as can be determined, suffered in no way from the presence of the malignant condition. The physical and chemical characteristics of this fluid have been the subject of investigation and reports will appear later in regard to them.

The cases which have been treated with this fluid number nineteen—one intestinal cancer, six of uterine cancer, five breast cancer, three cases of epithelioma of the jaw, one cancer of the prostate, three cancer of the esophagus. The reaction of the patient to the injections is an individual one. It varies with each patient, and with the same patient from time to time. In 30 per cent. of the cases considerable improvement, locally and generally, may be expected. In no instance has there been any result which would lead one to expect a cure. The favorable effects have been as follows: Relief from pain, diminution of hemorrhage, and secretion from the tumor mass when it has been located on a mucous surface, increase in weight and appetite, marked improvement in the general physical condition. In 25 per cent. of the cases there has been a cessation of growth on the part of the tumor, and in a few it has appeared that the tumor has actually diminished in size. The serum has been given by subcutaneous injection in the flank and lumbar regions in doses varying from 10 to 125 c.c. The size of the dose and frequency of administration are determined by the reaction, both local and general. The local reaction in the tumor has been present in practically all cases that have taken as much as 50 to 75 c.c. of the fluid at daily intervals. If the publicity given to these observations results in the heterogenous use of ascitic fluid in the treatment of cancer, much harm will probably result.

DISCUSSION

Dr. Richard Weil: I would like to ask Dr. Beebe whether he is able to state that the fluid used recently is fully as potent as that which was first used. Also, would it not be wise at this time to caution investigators against the use of considerable amounts of this ascitic fluid, in view of the tendency to produce softening? I would like to ask if any observations have been made with ascitic fluid from persons without cancer.

Dr. Leo Loeb: I would like to ask Dr. Beebe whether in transfusing blood of other dogs into tumor dogs, the blood of dogs in which tumors have retrogressed is more potent than the blood of normal dogs?

Dr. James Ewing: I have had an opportunity to follow some of the cases treated by ascitic serum, and may say that I have never seen the results equalled by any other method of internal medication. We have tried to test as many sera as possible, and Dr. Beebe has reported on the results of a number of these, both cancerous and non-cancerous. However, it seems to me that the estimation of therapeutic results by variations in the size of the tumor is an extremely uncertain method. We have for some years been able to reduce the size of tumors by a number of methods, and with effects which at first seemed favorable. Yet other data must be considered in estimating therapeutic effects, especially when the diminution in the size of the tumor is produced rapidly. We are not justified in concluding that reduction in size is a wholly favorable process. Improvement in the general condition of the patient, regardless of the size of the tumor, has been observed in some cases, and is a favorable feature of the serum treatment. There are a great many pitfalls to be guarded against in this treatment, and I would express the same opinion as Dr. Beebe has given as to the extent to which it may be relied on. At the same time, it may be claimed that it opens up an interesting field of study.

Dr. Harvey R. Gaylord: I recently had a pleural exudate from a case of stationary carcinoma in a woman who had resisted recurrence eight years after operation, followed by recurrence. This pleural exudate was tried on a primary mouse cancer, and it was found that when injected in large doses, 1/10 of the body weight, all of ten primary mouse cancers retrograded somewhat. The serum produced a definite reaction in these tumors after from 18 to 24 hours, evidenced by the mice biting at their tumors and their becoming distinctly warm and edematous. Two of the smaller tumors retrograded absolutely. Those removed for examination showed marked edema and hyperemia at the margins of the tumors.

Dr. Edward H. Risley: I tried the use of a number of fluids, such as hydrocele, chest-transudates and non-cancerous ascitic fluid. In several cancer mice the tumors became smaller under treatment with hydrocele fluid. Hydrocele fluid was tried also on a patient with cancer of the rectum, and for the first two or three days the patient felt better and the tumor had softened, but the improvement was only temporary. There are four fluids which are used right along. One is from a cancer of the liver and contains a little bile. I have had to use this in very small doses, 5 to 10 minims. Two fluids are from cancer of the ovary. These fluids I have used constantly, three times a week, on a series of ten patients and they show very interesting results. I think it is largely psychic with a great many of these people. I have given as large a dose as 60 c.c. without any constitutional reaction. Most of the patients state that immediately after injection there is local swelling of the tumor, with some headache, and possibly chill. These fluids have all been tried on mice first. I propose to try other fluids and keep on with them as new patients present themselves. All patients as yet treated have been inoperable.

Dr. Beebe: The fluid we have used comes from various types of cases. There is no question that these fluids ought to be used with a good deal of caution. If the impression should get abroad among medical men not acquainted with the details of the subject that this is an instance where "a little does good, more would be better," and they should use large quantities, they would do a great deal of harm. For this reason I emphasize the necessity of being cautious in the use of any human fluid, and also with each patient. Susceptibility varies. In every case the treatment should be begun with a very small dose, gradually increased.

In regard to Dr. Loeb's question, it is my impression that the blood of dogs which have spontaneously recovered is better. In regard to Dr. Weil's question, I cannot answer that yet with any degree of satisfaction to myself, but it is my belief, and I thing it is brought out by this series of cases, that the chylous fluid has not in any way diminished its potency, and that it gives the best results. A curious fact, as Dr. Ewing stated, is that all of these patients gained in weight. I know one has gained 20 pounds. One, a corpulent subject, has complained of the gain in weight. As to the significance of this reaction locally in the tumor, we do not know how much that means.

Cancer Among American Indians and its Bearing on the Ethnologic Distribution of the Disease

Dr. Y. Levin: The American Indians residing in the United States lend themselves peculiarly well to such an investigation, since the United States government considers this race as wards of the nation and consequently keeps practically a record of each individual member. At each reservation or agency there resides a government physician. Of the 130 physicians thus employed, data were obtained from 107. The practice of these physicians covers a population of 115,455, and during a time ranging from a few months to over twenty years, and only 24 cases of cancer were encountered during the investigation. Thus cancer is extremely rare among the Indians, and this rare occurrence cannot be apparent, since it is impossible to suppose that cases of death from cancer could have escaped the notice of the government physician, nor did the investigation show any difference in length of life between the American Indians and their white neighbors. The only explanation, then, that may be given of these results is that racial characteristics, which comprise not only the ethnologic difference in the structure of the body, but also the difference in the environment, the mode of life, etc., must play an important part in the causation of cancer.

A Transmissible Sarcoma of the Common Fowl

Dr. Peyton Rous, New York: This is a report of the first avian tumor that has proven transplantable to other individuals—a spindle-celled sarcoma of the hen, which has thus far been propagated to its fourth tumor-generation. Success has been made possible by the use of fowls from the intimately-related, pure-blood stock in which the growth was found. Market-bought fowls of similar variety and appearance, though probably not of pure blood, have shown themselves insusceptible, as have fowls of mixed breed, and pigeons and guinea-pigs. The percentage of successful transplantations has been small, but in the individuals developing a tumor its growth has been fairly rapid, and it has attained large size before obviously affecting the health of the host. Young chickens seem more susceptible than adults. The reinoculation of fowls once negative has always failed to result in a growth. Histologically, the tumor is a characteristic sarcoma, and it has remained true to type throughout the transplantations. It is infiltrative and destructive. As a rule, it undergoes widespread coagulation-necrosis at its center, and the thin rim of living tissue is not unfrequently myxomatous. Metastasis (to the heart) has been once observed. Experiments to determine whether the growth may be transmitted by cell-fragments have not yet been done. At best, it is difficult to propagate. Repeated bacteriologic examinations, including tests for acid-fast bacilli, have given negative results. In its general behavior, so far as tested, this avian tumor closely resembles the typical mammalian neoplasms that are transplantable.

The Chemistry of the Melanins of Tumors

Dr. Carl L. Alsberg, Washington: Some years ago I had occasion to study a melanotic sarcoma of the liver secondary to a choroid tumor of the eye. Inasmuch as melanin-like compounds may be formed by the action of enzymes, I undertook to investigate the question whether or not this melanotic tumor contained oxidizing enzymes capable of converting aromatic compounds into melanin-like bodies. I was able to find that tumor extracts formed pigment from pyrocatechin, but not appreciably from tyrosine. In view of the finding in my case, and the wide distribution of the oxidizing enzymes, it is doubtful whether this fact has much significance from a diagnostic point of view.

Influence of Heat on Tumor Cells

Drs. Ellen P. C. White and Leo Loeb, Philadelphia: In continuation of the former experiments of one of us we studied the effect of heat on tumor cells in a quantitative manner and from various points of view. We heated the tumor material uniformly to 44 degrees in the test tube during variable periods. We found that the effect of heating varied approxi- mately proportionately to the period of exposure up to a cer- tain maximum when the influence became rapidly more intense. The curve of decrease of virulence under the influence of heat- ing is accompanied by a similar curve indicating the number of retrogressions, which increased proportionately to the length of exposure to a certain point and then increased more rapidly. In originally weakly-growing tumors the relative effect of heat- ing is not greater than in tumors that before the heating grew more vigorously. An increase in the energy of growth directly following low degrees of heating has not been observed. A summation of the effects of heating through a series of generations does not take place. The decrease in virulence is transmitted only to a limited number of cell generations. Gradually a recovery takes place. This proves an unexpected degree of elasticity which the tumor cells possess. To an unusual extent they are able to recover from injuries which they received. This is a new argument in favor of the statement published nine years ago by one of us, namely, that many facts render probable the assumption that somatic cells, of which the majority of the tumor cells represent a modification, are potentially immortal. On the other hand, through long-continued heating through many generations the resistance of the tumor cells to moderate degrees of heating does not take place. Neither an active immunization of the tumor cells, nor a selection of the naturally more resisting cells is noticeable.

STATE MEDICAL SOCIETY OF WISCONSIN

Sixty-fourth Annual Meeting, held in Milwaukee, June 22, 1910

Under the Presidency of Dr. Edward Evans, La Crosse

Officers Elected

The officers elected were named in The Journal last week, in the News Department.

Medical Education and Medicine

Dr. Edward Evans, La Crosse: The university must educate the public to know the great value and possibilities of modern medicine. Within a few years the free medical course has developed into the school of medicine. The state hygienic laboratory is doing vastly increased work in state medicine. A thorough course for medical health officers will soon be offered. In the universities the complex problems of state medicine must be solved. The department of health should be a department of the university. The university can do much for medical education where the medical school is an integral part, by maintaining high standards of entrance, by the inspiration of productive scholarship and by the financial support of the medical department. The work done in the medical school at the University of Wisconsin the first two years is of the highest order. Here we may hope to see a great post-graduate school in medicine.

Medical inspection of schools should be compulsory. Industrial colleges should be inspected by the state. Water, milk and food supplies should be supervised. The infective diseases, especially the so-called social diseases, should be, if possible, eradicated. Proper vivisection should be uncompromisingly supported.

Human Pancreatic Juice

Dr. H. C. Bradley, Madison: Human pancreatic juice in its normal form has been rarely attainable. In the case under consideration an opportunity offered for its examination for six successive weeks, owing to a temporary fistula. The physical and chemical characteristics of the juice were determined from day to day. And contrary to general teaching the juice was found seldom to be alkaline with sodium bicarbonate. Contrary to general belief pancreatic juice is proteolytic before it reaches the intestines; and the pancreatic juice of one animal will activate the pancreatic juice of another animal that flows inactively. The enzyme trypsin was found to activate itself within 48 hours to a week.

DISCUSSION

Dr. Wilhelm Becker, Milwaukee: It is fairly well determined that it is merely atmospheric air, or the carbonic acid in the intestine, which activates the enzymes.

Dr. A. S. Loevenhart, Madison: Nothing has been thus far proved as to the nature of the activation of the pancreatic juice that comes about on standing; it is, perhaps, due to hydrolysis or some combination between the enzymes and some other unknown constituent of the juice.

Possibilities of Prophylaxis Against Insanity

Dr. Arthur W. Rogers, Oconomowoc: Insanity is increasing to an alarming extent. The fight against tuberculosis is world wide, but who hears of the fight against the prevalence of insanity? The disease must be fought through instruction in the public schools and on the part of parents. The liquor traffic should be regulated. The rapid increase of drug habitués must be checked. The social evil must be curbed. Venereal diseases must be as far as possible eradicated. Prejudice and ignorance must be overcome, for they have caused mental diseases to be neglected in the medical colleges and by the medical profession, giving rise to the crude schools of Eddyism and Emmanuelism. The physician has too long been only a medical man; he must also be a good citizen. A national department of health should be established. The first duty of the medical profession lies along the lines of prophylaxis. Education is the important feature. Reduce the number of medical colleges and elevate their standard, then wage a campaign through the medical and lay press, local and state boards of health, and through the schools and universities, to prevent the spread of insanity.

DISCUSSION

Dr. W. F. Becker, Milwaukee: Prophylaxis is a difficult problem. All the activities that make for human betterment lead to the solution of the problem of the prevention of insanity. Heredity and alcoholism are important factors of causation. I cannot endorse the sterilization of the criminal as practiced in Indiana. Environment and not vicious predisposition frequently produces the criminal. However, vasectomy and sterilization are advisable in cases of imbecility. Societies should be established for the care of the insane after their discharge from insane hospitals, and also for the care of those who are in danger of becoming insane. This is a most important point and should be undertaken along the lines of the antituberculosis crusade.

Results of Heredity and Their Bearing on Poverty, Crime and Disease

Dr. A. W. Wilmarth, Chippewa Falls: There is a great awakening of public interest in the increase of the dependent classes. The number of mentally and morally incompetent may be measured in the loss of hundreds of thousands of dollars. Their cost to the competent members of society is reckoned in millions of dollars. Their harmful influence is beyond computation. The laws of Nature indicate and actual observation confirms the fact that the physical conditions on which such incompetency is based are in the majority of cases transmitted, and consequently largely preventable. Among other methods of curtailment I should suggest in proper cases restriction of marriage, sequestration and surgical intervention.

DISCUSSION

Dr. W. H. Washburn, Milwaukee: Disease is a great factor in natural selection, and disease has been in great measure prevented by the advance in medical science. Under the circumstances it is surprising that the human race is as decent as it is, and we have the female portion of the community to thank that this is so. Humanity and altruism impose on us the obligation of supervising the unborn. In the case of chronic criminals, I advise vasectomy or resection of the Fallopian tubes. Education is the keynote. Let us take the first step. The people must be educated. Then in another generation the legislators can be reached and, perhaps, in a generation after that legislation secured.

Correlation Between Splanchnoptosis and Pulmonary Tuberculosis

Dr. Wilhelm Becker, Milwaukee: The phthisic habit and asthenia universalis, splanchnoptosis, are identical. Hence, the phthisical habit is not a specific phthisical inheritance. Stiller's costal stigma is a constant concomitant of the habit, indicating its presence, but not its degree. Stiller's costal stigma, being a congenital defect, and present in earliest infancy can, therefore, be considered a diagnostic feature of the habitus phthisicus (so-called) long before phthisis has developed. The early diagnosis of asthenia universalis offers great opportunities of combating congenital disposition to tuberculosis.

Practical Medicinal Therapeutics as it Appears from the Prescription File

Dr. Julius Noer, Stoughton: An examination of many thousands of prescriptions from the files in drugstores shows prescriptions by physicians of an inordinate mass of pseudotherapeutic agents. My investigation shows, first, that talismanic therapeutics did not die with Paracelsus, nor has the mother church in Boston a monopoly as a promoter of pseudoscience; and second, that the excellent work of the Council on Pharmacy and Chemistry of the American Medical Association is not without cause and justification. How can we improve existing conditions as regards the use of proprietary and semisecret nostrums? We should urge the continuance of this monumental work of the council. The new edition of the Pharmacopeia should contain the remedies in general use by practicing physicians which have been shown to possess therapeutic properties. It would be further advisable to establish a pharmacologic laboratory.

DISCUSSION

Dr. A. S. Loevenhart, Madison: The situation is not encouraging. The nostrum and proprietary evil is growing. The whole drug business is in a bad state in many ways. With some striking exceptions, the vast majority of drug houses are interested purely and simply in the making of money and are unconcerned with the question of public health. Moreover, our expectations with regard to the pharmacopeial convention have been absolutely disappointed. The convention was dominated by poor medical schools and the pharmaceutical associations in the interests of the drug trade The convention refused to pass a resolution excluding from the Pharmacopeia drugs which are known to possess no therapeutic effect. It is impossible to use the Pharmacopeia with our students when we know that of 975 titles only 150 to 250 drugs are of any therapeutic value.

The Plaster Spica in High Fractures of the Femur

Dr. Charles H. Lemon, Milwaukee: With the plaster spica applied with the leg and thigh abducted, the thigh flexed on the trunk, seemingly impossible obstacles can many times be overcome. The plaster spica is by no means an easy dressing to apply. Its use requires a definite apprenticeship, but when one has become sufficiently skilled in its use, so that he has confidence in his ability to accomplish definite results, there is no appliance that gives greater comfort to the patient nor greater peace of mind to the surgeon.

Tincture of Iodin as a Skin Antiseptic

Dr. M. W. Dvorak, La Crosse: As a skin antiseptic iodin has not received the attention it deserves. The method commends itself for simplicity and thoroughness, and wherever it is necessary to render the skin field aseptic.

Dr. W. H. Brown, Madison: Tincture of iodin produces absolute asepsis of the skin in three minutes, and penetrates deeply, sterilizing the entire depth of the epithelium. The *bactericidal power is due to the iodin per se* and not to the alcohol. Skin changes are not of serious import.

DISCUSSION

Dr. A. S. Loevenhart, Madison: The antiseptic power of iodin is dependent on its power to precipitate proteid and on its action as an oxydizing agent.

Dr. L. A. Moore, Monroe: The use of ether to dissolve the oil of the skin before applying the iodin causes the iodin to reach the deeper layers of the skin more readily. I have used iodin in fresh wounds with good results.

Dr. Joseph F. Smith, Wausau: I have adopted the use of iodin exclusively in clean cases. The results have been very gratifying. I have found no deleterious action on the skin.

Dr. T. L. Harrington, Milwaukee: I have been using tincture of iodin for a considerable time. It is a great advance over the ordinary skin antiseptics. Suppurating wounds are avoided.

Dr. C. M. Echols, Milwaukee: I should prefer a 50 per cent. solution of alcohol as a solvent.

The Medical and Surgical Aspects of Tumors, Including Inflammatory and Neoplastic Formations

Dr. J. C. Bloodgood, Baltimore: The old treatment for cancer is still the only treatment—its radical removal. Malignant tumors are curable in proportion to the earliness of surgical intervention. There must be publicity in regard to early symptoms. Skill in differential diagnosis must be increased with a view to earlier recognition of malignancy. Contrary to general opinion, 50 per cent. of bone lesions are curable by operation without amputation. Amputation seldom effects a cure. When in doubt it is better to treat bone lesions as relatively benign. In examining bone lesions by the *x*-ray, take a number of skiagraphs, because bone lesions are often multiple. A bone cyst is a benign bone lesion and can be cured by simple incision and drainage. Curettement often cures where resection fails. Differential diagnosis must be studiously made between malignant sarcoma and benign bone cyst. Otherwise amputation may be done when contraindicated. Resection is often preferable to amputation, even in malignant bone tumors. But these operations should all be done as early as possible. Giant-cell sarcoma is frequently curable, as metastasis does not usually occur. In operating for giant-cell sarcoma remember the danger of hemorrhage. There is no danger of disseminating the disease by curetting. Glands with continuous function, such as the thyroid, are not usually the seat of malignant disease, while in the breast which has not a continuous function carcinoma is relatively frequent (67 per cent. in 1048 cases). Although restricted operation is often proper in sarcoma it is dangerous in cancer of the breast. A lump in the breast should be regarded as an acute disease and treated accordingly. Early operation insures cure in 80 per cent. of cases, while the operation at the end of the fifth year effects cure in about 40 per cent. of cases. Differentiate between benign breast cyst and cancer. Ulcer of the nipple is suspicious. Complete excision should be the watchword. Recurrence is most frequent in cases which appeared to be favorable, and the operator is influenced by the desire to secure a cosmetic effect.

The Wassermann Reaction in Syphilis

Dr. R. M. Pearce, New York: The Wassermann test shows a high percentage of positive reactions in general paralysis, tabes, aneurism, aortic insufficiency, mesarteritis, chronic bone disease, arthritis deformans and congenital affections of the nervous system, most of which diseases may be classed as largely metasyphilitic. Seldom has a new method of diagnosis or treatment promised as much as does the Wassermann reaction, and if the future work tends to the fulfillment of this promise we have in the Wassermann reaction one of the greatest advances in the history of medicine ever made. The knowledge which it yields, coupled with that resulting from the study of the etiology and from experimental inoculation should eventually place syphilis in the group of subjugated diseases, diseases of which the etiology and pathology are known, for which there exists an absolute diagnostic method and a rational specific treatment.

Serum Treatment of Hemophilia

Dr. A. J. Patek, Milwaukee: The etiology of the disease is still shrouded in mystery, but it is probable that in hemophilics the clothing ferment is absent, deficient or held in abeyance. Human or animal blood serum applied locally, subcutaneously or intravenously may have a styptic action during hemorrhage. But owing to the danger of anaphylaxis when alien serum is used, human serum is preferable. A prophylactic injection of serum prior to operation is advisable in these cases. Subcutaneous injections are preferable in most cases. Transfusion may be employed in massive hemorrhage.

Chronic Diphtheria

Dr. G. C. Ruhland, Milwaukee: Chronic diphtheria is at present little or not at all recognized by the profession at large. It is a condition that, however, frequently is associated with definite symptoms of disease, the recognition of which is of greatest importance in the history of disease epidemics. It is fallacious to depend on symptoms for differentiating acute and chronic diseases. I desire to emphasize the great importance of local after-treatment in all cases of diphtheria, both for the good of the patient and for epidemiologic considerations.

Aneurism of the Thoracic Aorta

Dr. Joseph F. Smith, Wausau: My case was one of aneurism of the descending portion of the thoracic aorta, with fatal termination by rupture into the esophagus. The chief clinical feature of the case was persistent boring pain referred to the right lumbar region, just beneath the twelfth rib, and in front just beneath the right costal arch. Diagnosis in these cases is often difficult, and the *x*-ray is frequently a valuable aid.

Traumatic Hernia

Dr. T. W. Nuzum, Janesville: In making experiments in the production of hernias 12 cats were used, 6 fasting and 6 not fasting. Hernias were more often and more easily produced in those that were fed. A rolling motion will more often produce hernia than direct pressure of equal severity. Seven hernias were produced, 3 inguinal and 4 diaphragmatic. The peritoneum was torn in 3 instances and was pushed in front of the hernial contents and formed a sac for the same in 4. In every instance there was more or less severe injury done to the vessels, viscera or both. As conclusions from these experiments it appears that hernia is not likely to be produced by a blow unless a punctured wound is produced. The rolling motion is more likely to produce hernia than mere pressure. The inguinal region and the diaphragm are points of least resistance. Hernia is more easily produced in the young than in fully developed muscular animals, and in those with a full stomach rather than in those fasting. In true traumatic hernia the peritoneum is often forced through the abdominal wall ahead of the hernial contents, forming a sac for the latter.

The Nursing Mother from the Baby's Standpoint

Dr. A. W. Myers, Milwaukee: There are three classes of errors into which nursing mothers may fall: (1) Too frequent nursing. A three-hour interval is about right. Do not wake the child up to nurse it. (2) Over-feeding on the part of the mother, producing milk which is too rich. (3) Lack of care on the part of the mother in choosing food, especially the too early and abundant use of fruit and vegetables. These are some of the causes which lead to the divorce of the baby from the breast on the ground of incompatibility of temperament.

RHODE ISLAND MEDICAL SOCIETY

Annual Meeting, held May 31, 1910

Under the Presidency of Dr. Eugene Kingman, Providence

Officers Elected

The following were elected to serve for the ensuing year: President, Dr. Augustine A. Mann, Central Falls; vice-presidents, Drs. Frederick T. Rogers, Providence, Alexander B. Briggs, Ashaway; secretary, Dr. Stephen A. Welch, Providence; treasurer, Dr. Winthrop A. Risk, Providence.

The treasurer reported that a special fund of $5,000 had been received from the estate of the late Dr. Horace G. Miller, which is to be used to maintain the ophthalmologic library.

The annual report of the secretary showed that the society numbered 384 members.

President's Address: The Needs of the Society

Dr. Eugene Kingman: By a provision of our charter we can hold property, a body politic and corporate. "Men may come and men may go, but we (can) go on forever." In part we have accomplished the purposes for which this society was created. Directly or indirectly we have taken part in the creation and administration of health boards, the founding and serving of hospitals, the improvement of food, the restraint of disease and the enactment of wise medical laws. We have done something to advance the art of medicine by our prizes and publications. Much attention is paid to-day to the conservation of our national resources, and the greatest resource of all—the national health—until recent times comparatively neglected in the rapid material development of the country, is gradually assuming a place of first importance in the public mind and conscience.

Our society has two great needs: First, a home; second, money. For 98 years we have wandered from place to place, hiring whatever hall we could get. We need a place for a library, some thirty thousand books, including several complete and valuable files of medical journals. We need a large amount of money to further the purposes for which the society was founded. We need a building with its assembly and committee rooms, a salaried librarian and a book delivery system. We should have a complete laboratory and the services of a pathologist day and night. We should be able to employ eminent counsel to draft just medical laws. We should be able to pay certain chairmen of our committees to give all their time to the committees. We should have an emergency fund. Legislators are sometimes slow, and quick relief of impending evil often seems impossible. The amount needed is too large to be raised from members of this society. Physicians, as you well know, with few exceptions, after giving of their time and money to various charities, and paying their living expenses, have too little left to contribute largely to this cause. The endowment must come chiefly from the public and when the community understands that our work is to improve the physician, advance our art and help the people, they will in time respond generously.

The Eye in the Diagnosis of General Disease

DR. FREDERICK T. ROGERS, Providence: The eye is not to be relegated to the oculist; the general practitioner can recognize in it an important aid to diagnosis. On the conjunctiva hemorrhage in young people may show diabetes, in the aged arterio-sclerosis. The term conjunctivitis is a sort of "catch all" for physicians. There is a simple rule which will determine whether it is the conjunctiva, the iris, the sclera or the cornea which is affected. In conjunctivitis there is a disturbance of secretion without pain or photophobia; in corneal disease there is no increase of secretion but marked photophobia and subsequent pain, while in iritis there is a predominant pain and lacrimation and photophobia, dependent on the severity. The form of conjunctivitis most infrequently recognized is the phlyctenular. This is frequently associated with disturbance of digestion. The color of the sclera as in jaundice, chlorosis and nephritis is significant. Scleritis accompanies gout, rheumatism, syphilis and intestinal intoxication.

Keratitis, phyletenular and ulcerative, shows struma; parenchymatous keratitis in 75 per cent. of the cases means syphilis; and the dendritic form, when associated with supraorbital tenderness, means malaria.

Iritis is frequent with syphilis, gonorrhea, diabetes and rheumatism. Paralysis of the muscles is shown by a squint or diplopia. Which muscle is affected is shown by noting that it is always on the side where the doubling occurs and belongs to the eye that sees the object that appears most distant. The findings of the ophthalmoscope are often indications of organic lesions. Headache due to the eyes will show an affection of the lids and conjunctivæ, secondary to errors of refraction as well as by disturbance of vision. The practitioner should use Snellen's chart and if the patient cannot read the letters at their proper distance may assume that the disease is defective vision.

Retinoscopy should also be known. Muscular anomalies are indicated simply by a test with red glass. If there is functional paresis a strong cylindrical glass in front of either eye will throw a red image and a white bar of light. In glaucoma a disturbance of the tension of the globe is frequently not recognized.

The Tonsils

DR. HARLAN P. ABBOTT, Providence: The tonsillar ring of Waldeyer comprises four lymphoid structures, the faucial tonsils, the lymphoid tissue in the naso-pharynx and the lymphoid tissue at the base of the tongue. When weakened by disease the tonsils are the portals by which bacteria gain entrance, passing the epithelial lining and through the parenchyma to the lymphatics and blood vessels.

Attempts are now being made to show that the tonsils when healthy have the function of taking care of the debris from neighboring organs. Hypertrophied tonsils are to be removed when obstructive symptoms are present. Diseased faucial tonsils should be removed, capsule and all, unless the patient is a bleeder.

Exophthalmic Goiter

DR. JAMES G. MUMFORD, Boston: It is stated by Wilson that certain changes in the thyroid bear a relation to the varying symptoms of the disease. Early in acute cases the thyroid produces an excess of secretion which is rapidly absorbed into the circulation.

The more active the secretion and absorption, the more severe are the symptoms. Per contra, anything which diminishes the secretion or obstructs the flow, improves the symptoms. Some cases progress so far that permanent changes in the heart and nervous system are established even though the gland appears as a colloid goiter. All careful recent observers are convinced that the complex symptoms which we designate as exophthalmic goiter are due to overactivity of the thyroid. The various old theories, the cardiac, the compression, the sympathetic, the nervous, the parathyroid and the thymus are generally discarded. Overdosing with thyroid extract a normal person will produce in him symptoms of Graves' disease. Conversely ligation will diminish the size of the thyroid with resulting relief to the symptoms.

The treatment of Graves' disease is still a matter of wide skepticism. Although the do-nothing attitude of previous years is still seen among large numbers of general practitioners, one finds on the other hand, a keen and almost rabid activity among certain surgeons and physicians and both groups show enormous per cent. of cures. Rogers and Beebe use a serum.

In 1909 they reported 480 cases in all stages. Serum cured 15 per cent. of the patients, while 10 per cent. more had no subjective symptoms though retaining the goiter and occasionally the exophthalmos. Fifty per cent. were improved; 17 per cent. unimproved and 8 per cent. died.

Compare these statistics with the results obtained by Jackson and Mead at the Massachusetts General Hospital with the use of Forchheimer's neutral hydrobromate of quinin, 5 gr., three times a day. They report patients in two groups, those heard from by letter and those seen and examined after two years. Of 29 patients heard from by letter, 20 were practically well; 7 unimproved and 2 dead. Of 56 reexamined patients 42 were cured (75 per cent.); 7 improved, and 6 no better. None was dead.

The *x*-ray has proved of little service. The operative treatment, especially partial thyroidectomy, has this objection—the operation may kill. Ligation of the thyroid arteries was recommended by Woffler as early as 1886. Ligation seems advisable in desperate cases where thyroidectomy is impossible or where it is used as a preliminary step. Statistics of 741 cases in which thyroidectomy was performed show 70.3 per cent. cured; 22.27 per cent. improved; 3.38 per cent. unimproved; 4.03 per cent. operation deaths, and 0.66 per cent. late deaths. In my own 19 operations 14 patients (73.7 per cent.) were cured, 5 (26.3 per cent.) improved and none died. As a result of operation the pulse rate falls often inside a week, the tremor subsides, the sweating is lessened, a good color and appetite return. The patients are astonished at the rapid improvement. We may conclude, however, that statistical tables cannot accurately show the results of treatment where the symptoms are so complex and involve so many organs.

NEW HAMPSHIRE MEDICAL ASSOCIATION

One Hundred and Nineteenth Annual Session, held at Concord, May 12, 1910

(Concluded from page 2137, Vol. LIV)

Conservative Surgery

Dr. Alpha H. Harriman, Laconia: Well practiced surgery conserves the surgeon, and attempts to conserve the patient, though ostensibly the patient is the only consideration. It does not mean the do-nothing practice that some would have us believe, and, properly interpreted, it never did mean that. It does not mean that middle ground where the surgeon is everlastingly fearing his own reputation. In such a case the surgeon may be conservative, but he conserves his own interest and not that of the patient. Nor does conservative surgery mean the everlasting rushing into trouble. The man who has an operation for nearly every ill that flesh is heir to cannot be conservative. It is not his nature, and he brings, according to his activity, more or less a degree of disrepute on surgery. It must be concluded that that which conserves best the interests of the patient is to operate on all cases that are bound to give continued attacks of trouble. Conservatism is an anchor of hope. It is characteristic of good judgment, good reasoning, good diagnosis, good methods and capable always of giving good advice.

Anesthesia in Operations on the Aged

Dr. John H. Gleason, Manchester: Surgical procedures as ordinarily performed on very old people with the aid of general anesthetics by inhalation are usually accompanied by great risks and are followed by a very high mortality; hence we must make use of agents which will produce little or no functional change—the local anesthetics or drugs which produce local or general anesthesia when injected subcutaneously or into the spinal canal. One should hesitate before adopting the practice of making high injections into the spinal canal. Scopolamin is perfectly safe, if injected once or twice in small amounts. Scopolamin, 1/100 gr., combined with morphin, 1/6 gr., given hypodermically, every 1½ hours, until two or three injections have been given, has been employed as a general anesthetic. About six years ago I conceived the idea of combining scopolamin anesthesia with local anesthesia, using 0.1 per cent. cocain. This technic proved so successful that about one year later I began to use partial scopolamin anesthesia, combined with local sterile water infiltration anesthesia, in operating on the aged. The operator must be familiar with the anatomy of the parts, especially as to the course and distribution of the sensory nerves. To gain control of the field, it is necessary to block the nerves by depositing sterile water around and in close proximity to them. I am convinced that by this method the management of surgical diseases in old people may be made comparatively safe, the mortality much reduced and seemingly inoperable cases made operable and curable.

The Use of Fat-Free Milk in Infant Feeding

Dr. H. H. Amsden, Concord: The objections to the so-called percentage method of feeding, which was formulated and introduced by American pediatrists, notably Rotch and Holt, are: First, it is complicated and no two authorities give the same formulæ for calculating the percentages. Unless a careful analysis of the modified milk is made, the physician is by no means certain that he is getting the exact fractional percentages for which the method calls. Second, the amount to be given in any individual case is calculated arbitrarily according to the age of the child, rather than its weight or nutritional needs, and often it is generally a waste of time to attempt to adapt it to the case by a mere rearrangement of the percentage of fat, sugar and proteid without adopting more radical measures. The principal objection to the percentage method is that it assumes that the indigestibility of the proteid is the cause of difficulty in milk modification, and that all efforts must be directed toward overcoming this one feature. Clinical experience tends to prove that the fat rather than the casein is primarily responsible for curd formation. The best proof, however, that the proteids of cow's milk are not indigestible is the clinical test—feeding fat-free milk to infants. To one accustomed to the use of the percentage method it takes considerable courage to feed undiluted skim milk to a sick baby, but the results obtained have in each case justified the claims made by its advocates that a skim milk diet will result in the production of smooth salve-like stools, free from mucus and curds, inoffensive in odor, and unaccompanied by colic or constipation.

DISCUSSION

Dr. Harry W. N. Bennett, Manchester: Until recently I believed in the high fat feeding and that proteids were at fault. Fat is not the most essential element in the child's food. If you cut out fat and supply skim milk, you will find that the trouble will clear up, and where there were constipation and colic you will get a child that sleeps during the day, digests its food, gains in weight, and stools become normal.

Dr. Marion L. Bugbee, Concord: I do not believe in skim milk for babies, and see no reason why one of the important food elements should be abstracted from the baby's food at all, if the child is born with a normal digestion. After ten years of constant use of modified milk for both well and sick babies, I can see no reason for giving it up. I have rarely been able to find fat curds in the stools of the modified milk fed babies, although the stools are frequently tested for them. Doctors should give more time to the study of feeding infants.

The Treatment of Inoperable Sarcoma with the Bacterial Toxins of Erysipelas and Bacillus Prodigiosus

Dr. William B. Coley, New York: In my experience, in nearly 500 cases, there have been only three deaths. Most of the deaths in the hands of other men have been due to too large an initial dose given directly into a vascular primary growth. I rarely inject more than 1/6 mm. into the tumor in children, especially if situated in the neck or mediastinum, and never more than ¼ mm. in adults as the initial dose. I have had 56 cases of inoperable sarcoma successfully treated with the mixed toxins. Considerably more than 100 cases have been successfully treated by other surgeons. More than 10 per cent. of all cases treated have been successful.

Immunity with Special Reference to Vaccine Therapy

Dr. Timothy Leary, Boston: Vaccine treatment in surgical conditions does not do away with the necessity for intelligent surgery.

It is essential that drainage be established. In infections of the kidneys where there is a local irritant in the form of a stone or where drainage is interfered with, vaccine treatment has little value. If the colon bacillus is the infecting agent intoxication will be relieved and fever eliminated but local infection will persist. In the bladder if residual urine is constantly present vaccine therapy is only palliative since the chronic irritation of the bladder mucosa by products of the saprophytic bacteria usually present will favor the continuation of the process. Staphylococcus vaccine is now accepted as the standard method of treatment of local conditions due to this organism. In general infections results are less satisfactory because, I believe, such a general process is usually a pyemia and the organisms in a pyemia are contained in masses of clot and less accessible to the antibodies which may be formed.

No final judgment of the value of any agent used in the treatment of tuberculosis can be made unless its practice has been followed for many years. I am, therefore, only hazarding an opinion of the value of tuberculin from our limited observation. I believe that tuberculin in proper doses is a valuable addition to standard methods of treatment. Its use, however, is associated with dangers which make extreme caution necessary in its exhibition. Wright's method, which calls for an extremely small dose at weekly intervals, seems to eliminate all dangers of over dosage. Vaccine therapy is in its infancy. It is but a step in progress toward the specific therapy of infectious processes for which the medical work has been anxiously waiting.

DISCUSSION

DR. HOWARD N. KINGSFORD, Hanover: There are only a few cases in which the serum has been absolutely established as being of value, and whenever cases come up in which the serum is indicated, the physician should be extremely careful to get the material that he sends to the laboratory from the diseased area. As Dr. Leary says, the first culture is the important one, and results from cultures in the laboratory are not as good as those from cultures which come direct from the patient. The advance made in serum therapy is great in the last few years, and we are justified in trying it in cases in which we are absolutely sure about the diagnosis, or in cases which do not do well under the ordinary treatment.

DR. WILLIAM H. LEITH, Lancaster: While there is not, and cannot be expected to be, anything practical to be said from the general practitioner's standpoint, yet we have had some success in the matter of the treatment of furunculosis, papular acne, and gonorrheal arthritis, sufficient to give us hope that in a few years from now we may enter into a general and intelligent clinical discussion of this subject.

Nephritis

DR. FRANK B. EASTON, Laconia: Urinary findings cannot always be depended on to discover nephritis, if present; to rule it out, if absent, or to tell what the variety of pathologic lesion may be.

The urinary findings give absolutely no clue to what the exact appearance of the kidney may be. You may find diminished excretion and a large amount of albumin and at autopsy an indeterminate kidney. You may find an increased amount of urine with a small amount of albumin and an indeterminate kidney. Furthermore, you may have advanced arteriosclerosis in the rest of the body and none in the kidney and again advanced renal disease and normal urine.

That the urinary examination is of value must be confessed, but negative findings do not justify you in telling a patient with other clinical signs of nephritis that there is nothing the matter with his kidneys. There seems to be a family predisposition and there is evidence that special strains of bacteria and their toxins have a predilection for kidney tissue. Food, its amount and quality, is a real factor, the truism that more disease is caused by eating than drinking is as applicable to kidney disease as to disease of the stomach. The classification into parenchymatous, interstitial and arterio-sclerotic has serious objections, though that is the one generally used. The close dependence of the kidney on the heart and arteries, and the heart and arteries on the kidney should never be lost sight of. Chronic kidney disease may exist when the urine is normal and albumin and casts may be found and the kidney be normal.

The treatment in this condition is dietary, hygienic, hydrotherapeutic and only medicinal as symptoms may demand drugs. The diet should be regulated so that the patient should keep his body weight and get along as far as possible without proteids. Many anuric kidneys refuse to be flushed; they should be let alone until the amount of urine begins to increase when the intake of water may be correspondingly increased. Respiratory symptoms may be relieved by tapping when dyspnea is due to fluid in any of the cavities; when due to an uncompensated heart lesion digitalis may be used.

State Board Examinations

DR. GEORGE COOK, Concord: The members of this board are state officers, appointed by the governor to protect the interests of the people and guard them from incompetent persons practicing medicine in the state, as far as *an examination* will do this. We are not prosecuting officers.

All a state board can do is to guard the portal of entrance to the practice of medicine, and demand of all those who come before it an examination that will best show fitness to begin life's work, and not expert knowledge. I thoroughly believe that our examination should be confined wholly to the fundamentals, supplemented by such laboratory work as may show the ability of a man to comprehend this fundamental work. I would like to enter my feeble protest against the amount of work and the cramming process that is everywhere so prevalent in medical school teaching at the present time.

Representatives from the teaching force of a medical school or schools in the state, together with the members of the examining board, might mutually confer at an informal meeting and very much good could be accomplished; for, notwithstanding all the imperfections of our state boards, they have been a very potent factor in helping to raise the standard of medical education in this country. If the applicant can pass a reasonably good examination in the fundamentals, I will trust him in the elective he may choose. A fair and reasonable examination, both oral and written, in the fundamentals, together with such laboratory demonstration as will show the common things necessary to a more complete understanding of these same fundamentals. To my mind, the real crowning requisites to practice medicine are that the candidate shall be a Christian gentleman, or gentlewoman, and shall have common sense.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

July 7

1 *A Crusade Against Syphilis and Gonorrhea. F. H. Gerrish, Portland, Ore.
2 *Hemorrhage from the Kidney. P. M. Pilcher, Brooklyn, N. Y.
3 Individual Efficiency. F. P. Emerson, Boston.

1. **Crusade Against Syphilis and Gonorrhea.**—Gerrish discusses in a most excellent manner the following topics: Facts about syphilis; facts about gonorrhea; usual treatment of prostitution; etiology of prostitution; rational treatment of prostitution; sexual continence; the sanctity of life; the best size of family; how sex-education should be given, and treatment of sexual crimes. He insists that the first campaign of the crusade must be entirely educational. Already organizations have been formed for this specific purpose; but, in his judgment, they are not destined to accomplish as much as could be done through a different agency. The profession and the public are much more likely to be influenced in the desired direction if the instruction is offered by a great society, which is long established and widely known and honored, conducted by famous men, powerfully equipped in personnel, in traditions of the best methods, in a record of large achievements and in financial resources. A committee of such a society, composed of earnest, well-poised, altruistic men, who are interested in the work, would first assemble the forces of the several associations committed to this service, and unify and coordinate their various activities so that no effort would be lost by a duplication of work. Then a scheme would be adopted for reaching the public through the press. The newspaper syndicates afford the most accessible paths to the desired audience. There is needed an incessant, tireless presentation of the subject, so long continued that the densest intellect will be penetrated, the dullest mind awakened, the most obstinate objector convinced. Syphilis and gonorrhea should, he says, be reported.

2. **Hemorrhage from Kidney.**—Speaking of the treatment of this condition, Pilcher says that nephrotomy is the operation of choice because it allows a thorough examination of the kidney, and also for the reason that it accomplishes exactly what the operation of multiple ligation does in the treatment of varicosities in other portions of the body, in that it cuts six of the main connecting venous radicles of the kidney and in this way destroys the varicosities. The incision should be made along Broedel's line so as to avoid injury. Nephrectomy is indicated only when rapid and bloodless operation is demanded, or when nephrotomy fails to relieve the hematuria. Malignant growth requires the removal of the kidney; tuberculosis, removal of the ureter and kidney; renal stone,

removal of the calculus and sometimes nephrectomy. Nephralgia calls for renal decapsulation and the fixation of the organ.

Medical Record, New York

July 9

4 Progress in Medical Education. J. G. Schurman, Ithaca, N. Y.
5 The Hereditary and Congenital Causes of Exceptional Development. E. L. Hunt, New York.
6 The Paradox of the Tubercle Bacillus. I. Van Gieson, New York.
7 The Use of Internal Aluminum Splints in the Treatment of Fracture. W. S. Thomas, New York.
8 Tonsil Research. R. B. Faulkner, Pittsburg, Pa.
9 Anesthesia in Its Relation to the General Practitioner. H. W. Kearney, Washington, D. C.
10 The Enema—Its Place in the Treatment of Gastrointestinal Diseases. C. J. Drueck, Chicago.
11 *Statistical Analysis of Over 43,000 Cases of Diphtheria. M. Sallom, Philadelphia.
12 Congenital Fusion of Toes: Note on Previous Generations. F. Griffith, New York.

11. **Analysis of Diphtheria.**—The number of cases of diphtheria which have occurred during the past 12 years in Philadelphia, as reported to the Bureau of Health, has been 43,997. Of this number 7,097 terminated fatally. With more extensive use of the diphtheria antitoxin the mortality has been reduced from 24 per cent. in 1898 to 12.1 per cent. in 1909.

New York Medical Journal

July

13 Determinable and Indeterminable Factors in the Etiology of Typhoid Fever. L. L. Lumsden, Washington; D. C.
14 François Rabelais, M.D., Reformer and Buffoon. W. B. Konkle, Montoursville, Pa.
15 State Phthisiophilia and State Phthisiophobia: A Plea for Justice to the Consumptive. S. A. Knopf, New York.
16 The Quest and Winning of a Vesical Calculus. M. W. Ware, New York.
17 Vaccine Therapy in Serious Infections of Aural and Nasal Origin. C. Graef and R. B. Wynkoop, New York.
18 Gross' Duodenal Tube. M. Gross, New York.
19 Conglutinatio Orificii Uteri Extremi, M. F. Porter, Fort Wayne, Ind.
20 Abusive Use of Forceps in Primiparæ. A. Isaacson, New York.

Lancet-Clinic, Cincinnati

July 2

21 Cystitis: Diagnosis and Treatment. E. O. Smith, Cincinnati.
22 The Work and Aims of the State Board of Health. C. O. Probst, Columbus.
23 Municipal Hygiene. J. H. Landis, Cincinnati.

Kentucky Medical Journal, Bowling Green

June 15

24 Pathogenic Bacteria in Urine. E. S. Allen, Louisville.
25 The Dermatologist. M. L. Ravitch, Louisville.
26 Treatment of Acute Rhinitis. G. A. Robertson, Louisville.

Southern Medical Journal, Nashville

June

27 The Treatment of Pelvic Inflammation. O. S. McCown, Memphis.
28 Diagnosis, Pathology and Etiology of Pellagra. J. M. King, Nashville.
29 Gastrogenic Diarrhea. G. M. Niles, *Atlanta, Ga.*
30 Tuberculin Treatment in Pulmonary Tuberculosis. W. Litterer, Nashville.
31 Tuberculosis. J. J. King, Freeland, Pa.
32 *Double Identity. J. W. Stevens, Nashville.
33 The Treatment of Varicose Veins of the Lower Extremities. W. T. Black, Memphis.
34 Animal Diseases of Interest to the General Practitioner of Human Medicine. G. R. White, Nashville.
35 Lumbar Puncture. J. B. McElroy, Memphis.
36 The Use and Abuse of Atropin in Eye Diseases. E. P. Hoover, Jacksonville, Fla.
37 Calculus Impacted in Left Ureter: Removed Through Author's Operative Cytoscope. B. Lewis, St. Louis.

32. **Double Identity.**—The patient, a male aged 40, related a history that indicated the occurrence during the past 6 years of several periods of secondary personality, lasting from a few hours to several months, during which time he left home on business, took up new avocations, and had no knowledge of his former life, and on restoration to his normal personality, these periods remained as absolute blanks in his memory, and of them to-day, some years afterward, he still knows nothing, other than a few isolated facts that he has been able to discover through investigation. Sixteen years ago he had an apoplectiform attack. Left arm and leg were completely paralyzed for several days. This entirely disappeared in 5 or 6 weeks. The face was not affected. The tongue was clumsy, but there was probably no true aphasia. He has had "absent states" simulating *petit mal*, and has awakened in the morning with sore tongue, but he does not believe himself that this was due to having bitten it. His first attack came in July, 1904. He was then living in Atlanta, Ga., where he was employed in newspaper work. He was doing well in business, was in good general health, was not troubled about anything, and enjoyed the most pleasant social connections. Being greatly interested in religious affairs, he did a great deal of preaching at night. One afternoon in July, 1904, he boarded the train for Louisville, where he expected to enter the Baptist Theological Seminary to do some special work. The next he knew he found himself in Battell, Ala., in the latter part of December. He found out later that he had been preaching in Gadsden, Ala., which he learned from remarks made to him by a preacher whom he met afterward. A period of five months is a complete blank to him, and he has no idea by what name he was known during that time. He now went to Birmingham, where he was successful in work, and he married a second time, in June, 1905.

In August, 1907, he left Charleston, S. C., where he was doing newspaper work, for Orangeburg, to visit over Sunday with a friend. He realized that he was not well, and had been preparing for some time to wind up his business preparatory to entering a sanitarium for treatment. After a certain point in this journey from Charleston to Orangeburg he remembers nothing of himself until he came partially to himself in Macon, Ga., in November, 1907. This awakening was not complete, however, and there was established a third personality. In this latter he came to a partial recollection of himself then, but did not know how he had gotten to Macon, and the period of three months, from August to November, was and is a complete blank to him. He did not exactly know his name, but used one somewhat similar. The patient's memory of his past gradually came back to him except for the two periods above described and for short lapses of a few hours each. This return to his normal identity was broken by brief periods of confusion and dissociation for 3 or 4 months, and for a long time he was hazy on many points of his previous history that should have been perfectly familiar to him. These matters were gradually recalled by things told him by others. Until about the middle of April, 1910, he seems to have remained personality "A." About the middle of April last, however, another transition occurred, and he suddenly left Nashville without notice to his wife or employers and has not yet been located.

Medical Fortnightly, St. Louis

June 25

38 The Nation's Duty in the Conservation of Human Life, and Its Effect on the Cost of Life Insurance. L. H. Montgomery, Chicago.
39 A Plea for a Sane Fourth of July. H. J. Scherck, St. Louis.
40 Neurasthenia—Nervous Prostration, Nervous Exhaustion. T. G. Stephens, Sidney, Iowa.

Virginia Medical Semi-Monthly, Richmond

June 24

41 *Twenty-eight Cases of Gonorrheal Rheumatism Treated with Vaccines. W. G. Young, Washington, D. C.
42 *X*-rays as a Factor in Prognosis in Joint Injuries. A. L. Gray, Richmond.
43 Hepatic Gumma Simulating Perigastric Abscess. E. C. Prentiss and H. W. Crouse, El Paso, Texas.
44 Uncinariasis—Its Treatment. W. A. Brumfield, Richmond.
45 Puerperal Eclampsia. E. C. Prestridge, Alvarado, Texas.
46 The Alcohol Question. G. L. Servoss, Fairview, Nev.
47 Electrotherapy for Enlarged Prostate. W. T. Jones, Crozet, Va.

41. **Gonorrheal Rheumatism.**—Since September, 1908, Young has treated 28 cases of gonorrheal rheumatism with gonococcus vaccines. The duration of the gonorrhea prior to the onset of the rheumatism was from 9 days to 2 years. The duration of the rheumatism before vaccine treatment was begun was from 4 days to 6 months. Many of the cases were mild, but some of them were very severe. In 13 of the patients only 1 joint was involved. The wrist alone was affected in 3 patients; the ankle alone in 5; the knee alone in 1; the sacro-lumbar articulation in 1, and the sacro-coccygeal articulation in 1. The joints most frequently affected were the ankle, knee and wrist. The ankle was involved in 10 cases, the knee in 8 and the wrist in 7. In 1, none of the joints was affected. The trouble all seemed to be in the biceps muscle and its sheath. The number of the injections ranged from 1 to 15. The dosage varied from 5 to 50 millions. The frequency of

the injections varied from every other day to once in two weeks. The injections were made subcutaneously in all cases—sometimes near the affected joint, sometimes in the arm, sometimes in the groin. Recently most of the injections have been made in the groin. Practically no other treatment was used in any of these cases. The results were as follows: Patients cured, 20; improved, 5. Patients in whom there was no improvement, 3.

Journal Missouri State Medical Association, St. Louis

June

48 The Possibilities of the X-ray in the Diagnosis of Eye, Ear, Nose and Throat Conditions. E. H. Skinner, Kansas City.
49 Diseases of the Gall-Bladder and Gall-Ducts. R. M. Funkhouser, St. Louis.
50 What Medical Inspection of School Children Means to the Public. C. W. Tooker, St. Louis.
51 Retroperitoneal Shortening of the Round Ligaments. W. E. Dicken, Oklahoma City.
52 Hypokinesis: Atony of the Intestines: Constipation. J. W. Ousley, Kansas City.
53 Bismuth Vaselin Paste in Osteomyelitis. T. R. Frazer, *Commerce.*
54 Selective Management of Retrodisplacement of the Uterus. H. S. Crossen, St. Louis.

California State Journal of Medicine, San Francisco

June

55 The Physician in His Relation to Public Life. J. H. Parkinson, Sacramento.
56 The Last Meeting of the Council on Medical Education of the American Medical Association with Comparisons Now Existing in California. W. J. Barlow, Los Angeles.
57 The California State Board of Medical Examiners. J. H. Barbat, San Francisco.
58 Urticaria—with Special Reference to the Cause in the Papular Forms in Children. E. D. Chipman, San Francisco.
59 Endemic Grippe in Children in San Francisco and Vicinity. S. Blum, *San Francisco.*

Gulf States Journal of Medicine and Surgery, and Journal of the Southern Medical Association, Mobile

May

60 Transfusion Methods. [illegible] B. Gessner, New Orleans.
61 [illegible] cy. S. C. Carson, Greensboro, Ala.
62 [illegible] C. Newman, Independence, La.
63 [illegible] Splint. T. F. Robinson, Bessemer, Ala.
64 Fevers as Seen in Alabama. O. V. Langley, Camp Hill, Ala.
65 Facts and Fallacies About Coffee. G. M. Niles, Atlanta, Ga.
66 *Typhoid Perforation: Operation, Recovery. J. M. Mason, *Birmingham.*

June

67 Whooping Cough and Its Complications. Z. B. Chamblee, [illegible]
68 Th[illegible] of Pulmonary Tuberculosis. W. J. [illegible] New Orleans.
69 *End-to-End Anastomosis of the Brachial Artery. R. L. Turner, Meridian, Miss.
70 The Matas Operation—Obliterative Endoaneurysmorrhaphy in Popliteal Aneurism. J. Smyth, New Orleans.
71 The Treatment of Capsular Cataract. W. S. Sims, Jackson, Miss.
72 Arthrotomy for Gunshot Wound of the Knee. F. G. Dubose, Selma, Ala.
73 Chronic Gastromesenteric Ileus. A. L. Stavely, Washington, D. C.
74 Anterior Poliomyelitis. D. T. McCall, Mobile
75 Pulmonary Consumption or Tuberculosis. C. M. Watson, Florence, Ala.
76 The Employment of the Police Power for the Promotion of Health. J. M. Foster, Montgomery.

66. Abstracted in THE JOURNAL, May 28, 1910, p. 1819.

69. **End-to-End Anastomosis.**—Turner's patient sustained an almost complete tear of the brachial artery as the result of the fracture of his humerus. After dissecting up the artery for about 1¼ inches in each direction, with a sharp pair of scissors Turner excised ¼ inch, leaving each end free from its beveled condition. Then with fine silk, and a very small conjunctival needle, he passed interrupted sutures *through all the* coats, bringing the ends of the vessel together carefully, tying each suture as it was placed, and holding its ends to steady the vessel until the next suture was passed. After removing constriction there was a slight leak that was controlled by another suture. There was slight oozing from the stitch holes, which soon discontinued. Turner then utilized the sac of this false traumatic aneurism, which was the expanded sheath of the vessel, by replacing it over the *vessel* with sutures. The incision was then closed with linen, the arm was dressed and bandaged to the side, to prevent any tension on the *surface of* the vessel.

The further progress of the case was uneventful. There was never at any time any indication of disturbance of the circulation in the arm.

Long Island Medical Journal, Brooklyn

June

77 Practical Hints on Joint Tuberculosis. L. W. Ely, New York.
78 The Treatment of Diphtheria, Scarlet Fever and Measles. S. R. Leahy, Brooklyn.
79 Affections of the External Auditory Meatus. J. E. Sheppard, Brooklyn.
80 Quinin and Urea Hydrochlorid as a Local Anesthesia. H. F. Graham, Brooklyn.
81 A Case of Ainhum. J. H. Long, Brooklyn.

Medical Herald, St. Joseph, Mo.

June

82 Psychotherapy in Relation to the General Practice of Medicine and Surgery. H. S. Munro, Omaha, Neb.
83 The Errors of Mind Healing. R. Wilman, St. Joseph.
84 [illegible] F. E. Coulter, Omaha.
85 [illegible] G. H. Bogart, Brookville, Ind.
86 [illegible] One Dollar a Day. T. W. Schaefer [illegible] City, Mo.

American Journal of Medical Sciences, Philadelphia

July

87 The Value of Optimism in Medicine. E. L. Trudeau, Saranac Lake, N. Y.
88 *The Treatment of Arterial Hypertension. A. R. Elliott, *Chicago.*
89 *[illegible] Newborn: Special Reference to [illegible] n Treatment. H. Schwarts and [illegible]
90 [illegible] Classification of Early Pulmon[illegible] e, New York.
91 [illegible] Toxemias of Pregnancy Which [illegible] F. Wells, Chicago.
92 Disturbances of the Thyroid Secretion in Northern Mexico. W. C. Alverez, Cananea, Sonora, Mex.
93 *Typhoid Spermatocystitis and Prostatitis, and Their Relation to Chronic Typhoid Bacilluria. J. W. Marchildon, St. Louis.
94 *Von Graefe's Sign in Myotonia Congenita (Thomsen's Disease). J. P. Sedgwick, Minneapolis.
95 Torsion of the Great Omentum. A. C. Griffith, Kansas City.
96 The Theoretic Consideration of the Wassermann Reaction and Its Prac[illegible] M. Kaplan, New York.
97 *Calcium [illegible] Reference to Exophthalmic Goiter.
98 How Far [illegible] of Aural Disease? B. A. Randall, Philadelphia.

88. This article will be abstracted in Department of Therapeutics.

89. **Hemorrhagic Disease of the Newborn.**—Schwartz and Ottenberg draw attention to a little recognized, clinically important fact of delayed or lost coagulation in the hemorrhagic disease of the newborn, and briefly describe two cases. The first case was one of multiple hemorrhages, total failure of blood coagulation. The injection of serum had no effect either on the coagulation time or the hemorrhages. The child's condition became worse, and a transfusion was determined on. The father was chosen as the donor. Blood obtained from the child just before the transfusion failed to clot at all. At the end of the transfusion the child's coagulation time was the same as that of the father's—three and one-half minutes. The child died 8 days after transfusion. The most important facts brought out in this case are the mother's history of miscarriages (syphilis?); the child was nursed at a suppurating breast; the late date (seven days) at which the hemorrhages began; the blood failed to coagulate; the marked temporary effect of the transfusion; reappearance of the original symptoms and progressive loss of coagulating power; and the child did not die exsanguinated.

The second case was also one of multiple hemorrhages with prolonged coagulation time; congenital syphilis; sterile blood culture. Death took place 8 hours after the child was first seen.

The authors conclude that impaired blood coagulation is the immediate cause of uncontrollable hemorrhages in the newborn, and that this is probably due to destruction of, or interference with, the production of thrombokinase. Bacterial infection is the most frequent underlying cause of the disease; but syphilis alone can cause the disease without bacterial infection. The value of serum injections is doubtful, but it is important that transfusion should be tried when ordinary measures have failed.

93. **Typhoid Spermatocystitis and Prostatitis.**—The findings in two cases at autopsy has led Marchildon to the suggestion that the seminal vesicles and the prostate may be infected in patients who have typhoid. From the location of the typhoid bacilli in the stained sections, and because of the fact that

some infections of the prostate gland and seminal vesicles have a tendency to assume a chronic character, there is reason to believe that in subjects recovering from typhoid, the prostate gland and the seminal vesicles may sometimes harbor typhoid bacilli for a long time. It can easily be assumed, he says, that the bacilli may readily pass into the urethra with the semen, and with the prostatic secretion reach the urinary bladder and produce a typhoid bacilluria. In this way we may explain the recurrence of typhoid bacilluria on the suspension of treatment, and also the fact that no clinical signs of kidney lesions are found in these patients. Clinically, therefore, in patients with typhoid bacilluria, the possibility of infection of the urine from these lesions in the prostate gland or seminal vesicles should be considered. In long-continued bacilluria, especially in patients in whom the micro-organisms disappear under treatment, and then reappear at a later period, and also in "chronic bacilli carriers," in whom the excretion of typhoid bacilli is by way of the urine, the attention of the clinician should be directed to these organs as offering a source for the distribution of the typhoid bacillus.

94. **Von Graefe's Sign in Myotonia Congenita.**—Sedgwick's study was undertaken because of the observation of a family with a history of marked von Graefe sign for five generations. The von Graefe sign is so evident that it is considered by the family the most interesting manifestation of the condition, and the underlying myotonia had gone undiagnosticated through several generations. The family is of the oldest New England stock. Of the 29 members recorded, 13 were affected with myotonia and 16 were free. All of those affected showed the von Graefe sign to a greater or less degree. Of the affected, seven are males and six are females, a fairly equal division. In the first generation, the paternal grandmother, in the second generation the father and the father's brother were affected. In the third generation one brother and one sister were affected, while one brother and one other sister were free. The myotonic brother transmitted it through two mothers to four out of five children. The unaffected brother and sister did not transmit it. None of them have complained of pain or disturbance of sensation. The patient of the third generation who gave this information had measles and pertussis as a child, and was in bed two days with influenza in 1892 without complications or sequels. He has been otherwise exceptionally well, strong and robust. His mentality is excellent. The trouble with the muscles manifests itself as a "stiffness." There is especial difficulty in relaxing them when they are once "fixed." This is more marked in moist or cool weather, or when he is warm and cools off. He describes the condition as "cramp-like but not painful." He has marked von Graefe sign. He can "feel the upper lid hang back" when he looks down. He notices the condition in the tongue, eyelids, face, mouth, hands and legs. Relaxation is more difficult than contraction. He has no trouble with the glottis, breathing or sphincters. There has been little change in the condition since boyhood.

97. **Calcium Metabolism.**—Towles found that calcium given in the form of the lactate enters into the general metabolism or allows the calcium already present in the body to be utilized without loss. Given by the mouth there is no toxic effect from the administration of 20 grams of calcium lactate over a period of 15 days.

The calcium metabolism of Basedow's disease shows no special peculiarity; it runs parallel with the nitrogen, and in those periods of the disease in which there is a loss of nitrogen there is also a loss of calcium—a parallelism which is found in other pathologic conditions.

New York State Journal of Medicine, New York

June

99 *The Pathology, Diagnosis and Treatment of Joint Tuberculosis. L. Ely, New York.
100 The Rheumatisms: Their Etiology and Pathology. E. LeFevre, New York.
101 *[illegible] (Paget's Disease). H. L. Elsner, Syracuse.
102 [illegible] ict of the Otisville Sanatorium. E. S. Mc-
103 Problems in Relation to Nurses' Training Schools. C. Stover, Amsterdam, N. Y.
104 *Relationship Between the State Board of Regents and Training Schools. J. Merzbach, Brooklyn.

99, 104. Abstracted in The Journal, Feb. 26, 1910, pp. 731, 732.

101. Abstracted in The Journal, March 5, 1910, p. 814.

Laryngoscope, St. Louis

June

105 The Deaf Child from the Viewpoint of the Physician and of the Teacher. J. K. Love, Glasgow, Scotland.
106 The Physiology of [illegible] Reference to Development of Speech. [illegible] Philadelphia.
107 Clinical Aspects c[illegible] R. Packard, Philadelphia.
108 The Physician and the Deaf Child. M. A. Goldstein, St. Louis.
109 Development of the Hearing. J. S. Anderson, Swarthmore.
110 Mental Development of the Deaf Child. E. M. Gallaudet, Washington, D. C.
111 Development of Speech in the Deaf Child. A. L. E. Crouter, Philadelphia.
112 Development of Language in the Deaf Child. J. W. Jones, Columbus.
113 Development of Speech Reading in the Deaf Child. M. McCowan, Chicago.

University of Pennsylvania Medical Bulletin, Philadelphia

June

114 *The Influence of Muscular Fatigue and of Alcohol on Certain of the Normal Defenses. A. C. Abbott and N. Gildersleeve, Philadelphia.
115 *Primary Pneumococcic Meningitis. H. D. Jump, Philadelphia.
116 Situs Inversus Viscerum. H. T. Karsner, Philadelphia.
117 Primary Carcinoma of the Vermiform Appendix. C. C. Norris, Philadelphia.
118 The Medical Side of Benjamin Franklin. W. Pepper, Philadelphia.

114. **Influence of Muscular Fatigue and Alcohol on Normal Defenses.**—It is a well-known fact that violent physical exercise after more or less prolonged periods of relative inaction is accompanied in some individuals by the development of inflammatory lesions; notably of boils, abscesses and other closely related superficial suppurations. It was with the view of elucidating this subject that the investigations forming the basis of this paper were undertaken by Abbot and Gildersleeve. They found that the opsonizing power of the blood as determined by the opsonic index may be markedly diminished by severe muscular exercise and by the ingestion of alcohol. Though the opsonic content is diminished as a result of severe muscular exercise, there is, on the other hand, a coincident temporary increase of the leucocyte content of the peripheral blood which may return to normal if exercise be continued. Prolonged muscular exercise followed by the injection of pyogenic bacteria may favor pyogenic infections, but violent muscular exercise following inoculation is more apt to result seriously than that preceding it. This is of practical moment in its bearing on the observation noted in the opening paragraph of this communication. The ingestion of alcohol is quickly accompanied by a lowered opsonic index, but the index as quickly returns to the normal with cessation of the alcohol. The amount of alcohol needed to bring about this result had no influence on the resistance of the animal to infection. In the light of these experiments the authors hold that it is manifest that factors other than those here considered are concerned in the condition of susceptibility and immunity, in so far, at least, as they relate to infection by the pyogenic organisms.

115. **Primary Pneumococcic Meningitis.**—The individual whose case Jump reports was a strong, robust white man, aged 22 years, who previous to his illness enjoyed perfect health. He was a furniture mover by occupation, and was much addicted to the use of tobacco and alcohol. The onset of the disease occurred with an attack of vomiting and moderate headache. Two days before that time he was dull and irritable. When first seen he was stuporous; lay with his mouth open, eyes half closed, groaning constantly. His lips were dry and cracked; his teeth covered with sordes; his tongue dry and heavily coated. There was an eruption of herpes on the lips and chin and a small abrasion on the chin. No other sign of traumatism was present. He replied to questions very slowly or not at all, and was hard to arouse. There was a general hyperesthesia, particularly manifested in the abdomen. The neck was stiff and painful on movement. Within a few hours his head became retracted and his back moderately arched. Kernig's sign and tache cérébrale were present and persisted until the end. Knee-jerks were present. His pupils were equally dilated and reacted moderately

to light. Clonic convulsions beginning in the arms and extending to the whole body, occurred a little later. His unconsciousness deepened into coma, which lasted until his death. His temperature was 101; pulse, 84; respirations, 28. Before death these became, temperature, 104; pulse, 100; respirations, 36. Under physical examination the heart and lungs were normal; ears normal. His death occurred about 36 hours after he came under observation, or 5½ days after the beginning of the disorder. Just before his death a few fine crepitant râles were detected posteriorly at the base of the right lung. A lumbar puncture was made and two ounces of cloudy, opalescent fluid flowed out under moderate pressure. After the puncture all of his symptoms moderated, but the pulse became irregular. The spinal fluid showed great numbers of pneumococci.

Journal of the Medical Society of New Jersey, Orange

June

119 Infrequent Pulse. C. D. Bennett, Newark.
120 Business Methods of Practice. [illegible] City.
121 The School Doctor. W. B. Jenn
122 Prolapsing Kidney. E. Marvel,

Ophthalmic Record, Chicago

June

123 Plexiform Angiofibroma of the Eyelids. M. Myerhof, Cairo, Egypt.
124 Ring Abscess of the Cornea. J. A. Patterson, Colorado Springs.
125 Historic Sketch of Jacques Daviel and His Work, Suggested by a Visit to His Grave. D. W. Greene, Dayton, Ohio.
126 The Trachoma Bodies from the Normal Conjunctiva. S. H. McKee, Montreal.
127 Ophthalmic Surgery. G. E. Dean, Scranton, Pa.

Journal of Medical Research, Boston

June

128 *Bactericidal Substances Extracted from Normal Leucocytes. H. Zinsser, New York.
129 *Typhoid Vaccines and Opsonins. S. W. Sappington, Philadelphia.
130 *A New and Improved Method of Enumerating Air Bacteria. L. F. Rettger, New Haven, Conn.
131 *Etiology of Tabardillo or Mexican Typhus: an Experimental Investigation. J. F. Anderson and J. Goldberger, U. S. P. H. and M.-H. S.
132 Effect of Dilution on Flocculation of Colloids. B. H. Buxton and A. H. Rahe, New York.
133 Calcification and Ossification. H. G. Wells and J. H. Mitchell, Chicago.
134 *The Cultivation of Tubercle Bacilli Directly from Sputum by the Use of Antiformin. L. Brown and D. Smith, Saranac Lake, N. Y.

128. **Bactericidal Substances Extracted from Leucocytes.**—Summing up his work, Zinsser says that extracts of normal rabbit leucocytes, both those obtained by aqueous extraction and those obtained by freezing in salt solution, have distinct bactericidal powers for pyogenic staphylococci and for *B. typhosus*. There is considerable uniformity in the action of various lots of such extracts on the same strain of microorganisms and it is apparent that separate strains of the same species show no decided variations in their susceptibility to the bactericidal substances contained in the extracts. In regard to thermostability, his results are uniform in confirming the researches of other workers in showing that the endocellular bactericidal substances are not destroyed by heating to 56 degrees C., but that temperatures of 75 C., at least, are necessary for their destruction. This justifies the conclusion that they are distinct from and differently constituted from the bactericidal substances of serum. It was further shown that, in the case of both organisms studied, reactivation of these substances after heating to 80 C. does not take place on the addition of fresh leucocytic extract. Quantitatively these bactericidal substances are insignificant compared with the bactericidal powers of normal serum. It is unlikely, therefore, that the bactericidal action of the leucocyte extracts has been responsible, except in a purely secondary way, for the curative results obtained in infection in animals and man. In regard to the detection of complement in leucocytic extracts, either for the activation of bactericidal antibodies in serum or for hemolytic amboceptor, Zinsser's work has been entirely negative. Immunization, furthermore, apparently did not enhance the bactericidal power of the leucocytic substances, at least in the case of *B. typhosus*, in which case alone experiments were done with this point in view. It would seem that these substances, as contained in the leucocytes may be at all times sufficient for the destruction of the limited numbers of bacteria which can be ingested by the cell, and have no quantitative relationship to the specific immunity acquired by animals or human beings during their reactions against spontaneous or experimental infection.

129. **Typhoid Vaccines and Opsonins.**—In the 22 cases of typhoid treated by Sappington there were 3 deaths. One of these was regarded as hopeless when vaccines were employed, and they were used only in an experimental way to see if any reaction could be obtained in a subject practically dying. This leaves two deaths in 21, or 9.5 per cent. This is by no means a low mortality, though the percentage of fatalities under routine treatment during the same period was greater. Sappington found that the injection of a few small doses of an autogenous or stock typhoid vaccine produces decided effects in the healthy or those sick with typhoid. In the healthy after a period of about 7 days, there is demonstrable an increase of agglutinins and opsonins. In those ill with typhoid, similar inoculations produce, in the majority of cases, distinct, prompt and usually beneficial effects on the general symptomatology, temperature, course and opsonic index. As the method is dependent on active immunity, a certain amount of reaction in the patient is essential. It will not do to assume that vaccines are harmless, and a safe guide for dosage and frequency of inoculation is very desirable. It may be that this will be found in the temperature course of the opsonic index. The opsonic course in typhoid averages an index level around or above two. The index is usually high early in the disease, sinks a little toward the end of the continued temperature and rises with the decline of temperature and the advent of convalescence. It may fall to normal soon after recovery. Some patients, towards the close, exhibit low indices with improvement in all other lines, which suggests the fallacy of relying on high opsonins alone as a guide to the patient's condition. As a rule, however, the opsonic index approximates very closely the clinical course of the disease, being low when the patient is very ill and rising with improvement. The height of the opsonic index in typhoid may be of some value in diagnosis when the Widal reaction is negative.

130. **Method of Enumerating Air Bacteria.**—In the method described by Rettger the entire special apparatus consists of a glass tube with a small round bulb at one end. The bulb has 8 or 10 small perforations which serve the purpose of allowing the air to pass through at a rapid rate and yet divide the gas to such an extent that every particle of it is brought into close contact with the filtering fluid. This glass tube or aëroscope is fitted into a small, thick-walled test-tube by means of a rubber stopper which also bears, besides the aëroscope, a short glass tube bent at right angles. The upper end of the aëroscope is bent at an angle of about 45 degrees, in order to prevent bacteria and particles of dust from falling into the open end of the tube, and still permit of the tube being drawn through the stopper without difficulty. A detailed description of the method is given.

131. **Etiology of Tabardillo.**—As the result of rather extended observation of this disease, Anderson and Goldberger came to the conclusion that Rocky Mountain spotted fever and tabardillo are distinct diseases. At least two species of monkeys, *Macacus rhesus* and *Cebus capucinus*, are susceptible to intraperitoneal inoculation with the blood from human cases of tabardillo. One attack of the disease in the monkey produced by blood inoculation directly from man induces a definite immunity to a subsequent inoculation with virulent blood. The blood from a human case of tabardillo is infective on, at least, the eighth day of the disease; it seems probable, however, that it will be found infective throughout the active febrile stage. The blood from a case in the monkey (*Macacus rhesus*) is infective by passage to a second monkey of the same species on at least the fifth and sixth days of the disease. Diluted blood serum from a human case of tabardillo, when passed through a Berkefeld filter, failed, when inoculated into a monkey, to produce the disease. The disease is not conveyed by fomites as such; nor is it contagious in the ordinary sense of this word. The epidemiologic facts of the disease,

in Anderson and Goldberger's opinion, point unmistakably to an insect intermediary, and they believe that their observations point strongly to the body louse (*Pediculus vestimenti*) as this insect. They are of the opinion that the evidence against the body louse as transmitter of tabardillo is sufficient to demand that prophylactic sanitary measures directed against this disease should take that insect into consideration.

134. **Cultivation of Tubercle Bacilli.**—Fifty specimens of sputum were studied by Brown and Smith. Of these, 35 contained on microscopic examination at time of inoculation of culture media, tubercle bacilli in varying numbers, and in 15 no tubercle bacilli were found. Positive cultures were obtained in 33 (97 per cent.) of the 35 specimens in which tubercle bacilli were found and in four (27 per cent.) of the 15 specimens in which no tubercle bacilli were found, though also, in these four cases, bacilli had at some other time been found.

In the two cases which showed tubercle bacilli on microscopic examination and with which they failed to grow cultures, the attempt was repeated. The first instance showed tubercle bacilli on microscopic examination and a culture was obtained; in the second, the microscopic examination showed no tubercle bacilli and no culture was obtained. Guinea-pig inoculations were carried out with the 37 cultures by subcutaneous injection in the groin. One animal was used for each culture. Four died in 10 to 14 days. These showed beginning disease in the regional glands. Thirty-three died later and at autopsy showed extensive tuberculous lesions.

Journal of the Oklahoma State Medical Association, Muskogee

June

135 Medicine and Medical Organization: President's Address. W. C. Bradford, Shawnee.
136 Surgery. C. Blickensderfer, Shawnee.
137 Pediatrics. H. M. Williams, Wellston.
138 Pathology. E. Melvin, Guthrie.
139 The Need of Simplicity and Conciseness in the Practice of Medicine. R. H. Harper, Afton.
140 Suprapubic Prostatectomy. F. W. Noble, Guthrie.
141 New Orleans Clinics. V. Berry, Okmulgee.

Ohio State Medical Journal, Columbus

June

142 Trivialities and Progress. J. F. Binnie, Kansas City, Mo.
143 The Nitrites and Indications for Their Use. W. J. Conklin, Dayton.
144 *[illegible] with Severe Abdominal Symptoms Simulating [illegible] of the Region. H. J. Whitacre, Cincinnati.
145 [illegible] Provision in Ohio for the Care and Treatment of Acute Mental Diseases. H. H. Drysdale, Cleveland.

144. Abstracted in THE JOURNAL, June 4, 1910, p. 1897.

American Journal of Urology, New York

June

146 Diseases of the Verumontanum as a Cause of Urinary Obstruction. G. K. Swinburne, New York.
147 *Cacodylate of Mercury in the Hypodermic Treatment of Syphilis. L. Gross, San Francisco.
148 The General Principles of Treatment of Vesical Hemorrhage. C. G. Cumston, Boston.
149 The Present Status of Prostatic Surgery. P. D. Littlejohn, New Haven.

147. **Treatment of Syphilis.**—The cacodylate of mercury preparation Gross has been using contains 8 milligrams (1/8 grain) of mercury calculated as metal, in each cubic centimeter (16 minims) of the solution. He commonly injects 1 c.c. (16 minims) about 3 times per week. Where the case has been severe and requires drastic treatment, he has given 2 c.c. (32 minims) at each injection to get the disease rapidly under control. Where the patient's business has prevented visits three times per week, he has given 2 c.c. (32 minims) once or twice per week.

In the last 9 years' experience in the use of injections, three and one-half of which have been with mercury cacodylate, an abscess has never occurred. An advantage in cacodylate of mercury, says Gross, is the presence of arsenic. Arsenic is beneficial in many obstinate cutaneous manifestations and in cutaneous affections superimposed on the syphilitic infection. In his cases he has oftentimes been astounded at the rapidity with which the syphilides in the early secondaries have disappeared. He has had only one case where there were symptoms of intoxication. This was in a worker in lead and he had an idiosyncrasy against mercury. Inunctions and internal treatment were substituted, but the intoxication was even greater. Mercury in all forms was discontinued and he was placed on Zittmann's decoction, which caused all symptoms to disappear after the use of the second gallon.

Journal of Ophthalmology and Oto-Laryngology, Chicago

June

150 *The Possibilities of the *X*-ray in the Diagnosis of Eye, Ear, Nose and Throat Conditions. E. H. Skinner, Kansas City, Mo.
151 *Surgery of the Nasal Septum.* W. D. Black, St. Louis.

150. Published in the Journal of the Missouri State Medical Association, June, 1910.

Kansas City Medical Index-Lancet

June

152 The Medical Aspect of Mental Healing. J. Punton, Kansas City.
153 Duration of the Treatment of Syphilis. E. C. Hays, Hot Springs, Ark.
154 Unusual Gunshot Wounds: Report of Two Cases. D. A. Myers, Lawton, Okla.

Denver Medical Times and Utah Medical Journal

July

155 *Chylous Ascites and [illegible] Van Zant, Denver.
156 Aural Complications. [illegible] eblo, Colo.
157 The Etiology of Phle[illegible] E. H. Smith, Ogden, Utah.
158 Degenerative Changes in the Spinal Cord in Pernicious Anemia. J. R. Morrell, Ogden, Utah.

155. **Chylous Ascites.**—In VanZant's present case, the diagnosis was readily made, after a little study of its symptoms and progress, of a blocking of the thoracic duct high up in the thorax, leading to lymph and chyle stasis, and transudation of these fluids below. The pancreas (its body) was imbedded in a large mass, 1⅝ by 3½ by 1¾ inches, apparently consisting of coalesced lymph nodes of a pinkish color and granular appearance.

The receptaculum chyli was somewhat dilated. In the thoracic cavity, opposite the body of the tenth dorsal vertebra, a large lymphatic gland, one inch long, was found adherent to the wall of the thoracic duct, obliterating its caliber. Here and there, higher up along the thoracic duct, up to the level of the root of the lungs, on both sides of the duct, were found greatly enlarged lymph glands, pressing on the duct, so that a probe could not be passed up its caliber more than an inch without being stopped by these glands completely blocking the way. These enlarged glands could be felt higher up the duct, even into the root of the neck near its terminus. The failure to obtain a typical enlarged gland for histologic study leaves the cause of general glandular involvement in the case undetermined. The liver, lung and spleen showed a most striking infiltration with lymphocytes. In the serous capsules of these organs there were numerous rounded masses of small round cells, giving the impression of lymph spaces distended and closely packed with lymphocytes. These cell masses formed the innumerable small nodules which resembled miliary tubercles macroscopically. In the liver the interlobular tissue was densely infiltrated with lymphocytes; and in the lung the perivascular and peribronchial lymph spaces were closely packed with similar cells. The right lung also showed marked atelectasis with overgrowth of fibrous tissue in the alveolar walls.

Frequent tappings, probably 15 in number, were done only when imperatively required by great and increasing dyspnea. Femoral phlebitis, herpes zoster and transient pyuria were interesting complications of the case.

Journal South Carolina State Medical Association, Charleston

May

159 The Nature of Neurasthenia. B. R. Tucker, Richmond, Va.
160 Gastric Atony. F. M. Durham, Columbia, S. C.
161 Placenta Prævia—Its Treatment. H. R. Black, Spartanburg.
162 First Aid in Injured Eyes. E. F. Parker, Charleston.

Detroit Medical Journal

June

163 Practical Suggestions on Mastoid Surgery of Interest to the General Practitioner. S. J. Kopetsky, New York.
164 Alcohol and Its Effects on the Nervous System. A. W. Ives, Detroit.
165 Pellagra. J. W. Trask, Washington, D. C.
166 Greek: Its Value to the Physician. J. H. Dempster, Detroit.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 25

1 *The Bionomics of Helminths. W. Nicoll.
2. Recurrent Motor Paralysis in Migrain. J. M. Clarke.
3 The Value of Serums and Vaccines in the Treatment of Disease. N. Raw.
4 *Measuring the Antitryptic Index. F. C. Eve.
5 The Value of Test Meals as a Guide to Infant Feeding. R. Carter.
6 *Ovarian Grafting and Menstruation. T. Tuffier and E. S. Chapman.
7 Sleeping Sickness Showing Regular Periodical Increase of the Parasites Disclosed. R. Ross and D. Thomson.

1. **The Bionomics of Helminths.**—The point of special interest to physicians in Nicoll's paper. is that dealing with the prophylaxis of helminthiasis. He says that the cooking of foods, the wearing of clothes, and the application of sanitation and personal cleanliness are the three chief means of defense against helminths. Food is the essential factor in the transmission of parasites in the vast majority of cases. Infection with trematodes and cestodes (which are heteroxenous) can be acquired only in this way, with the doubtful exception of schistosomiasis. This, however, applies only to a limited extent in the case of nematodes (which are monoxenous).

The most effectual remedies against the inroad of platyhelminths are proper cooking of food and filtration of drinking water. All parasites are killed by exposure to a temperature of 100 C. (or even less), but it is of importance that the whole of the food be raised to this temperature, not merely the exterior. Most natural waters contain minute crustaceans and other animals, which frequently harbor helminth larvæ. Careful filtering, however, entirely removes them. The wearing of clothes is not of the same far-reaching importance, but it appears to be essential in the case of ankylostoma, filaria, and schistosoma. Sanitation and cleanliness are of little less importance than the proper cooking of food. They are specially important from an epidemiologic point of view.

The only means of dealing with an epidemic consists in the immediate destruction or disposal of the feces from the infected cases, and in scrupulous personal cleanliness among those exposed to infection. Were these measures strictly carried out, there would be no such outbreaks of ankylostomiasis as have been notorious in Europe of recent years. It is this third factor which is most largely concerned in the spread of nematodes. There remains a fourth factor, which is not so directly connected with, or dependent on civilization, namely, the transmission of helminths through the active agency of insects. This is independent of food, sanitation and clothing. Even here, however, a means has been found to limit the occurrence of the disease—namely, by filling up the swamps and marshes and thus destroying the breeding grounds of the mosquito. This measure might well enough be included under sanitation. Could these prophylactic and preventive measures be carried out efficiently in all cases, men would cease to be afflicted with helminth parasites.

4. **The Antitryptic Index.**—After experimenting for four months, Eve found that by digesting for four and a half hours in the incubator instead of at room temperature, and by adding another 3 c.c. of fresh casein just before measuring the viscosity, the antitryptic power of a serum could be measured reliably with only 0.08 c.c. of serum and with quite homely apparatus. Ordinary glass tubing is washed with acid and then with water and dried. It is then drawn out at intervals of 3 in., whereby a number of cylinders with tapered ends are made. If held horizontally in the drop of blood on the patient's finger, these fill themselves without forming bubbles. The casein solution is made by weighing 6 grams of casein and stirring it into a paste with 30 c.c. of distilled water warmed to about 40 C. After adding 5 c.c. of decinormal NaOH. the mixture is stirred till the particles are all dissolved with the help of five drops of aqua ammoniæ fortior. Mix this solution with 95 c.c. of water. to which 5 drops of solution of formaldehyd have been added and filter through paper (or wool) carefully.

The piston pipette consists of a home-made capillary pipette with a little bulb holding about 0.1 c.c. up to the arrow-mark. The butt end of the pipette slides freely into a larger glass tube, and the piston joint is made tight by a collar of rubber fitting snugly, and lubricated by a drop of water. A finger over the hole in the end of the large tube converts it into a syringe, but the moment the finger is removed the internal air pressure is equalized, and the contained fluid (if held horizontally) remains stationary. Four grains (0.26 gram) of trypsin are stirred into a paste and mixed with 100 c.c. of water which has been freshly drawn from the tap to secure uniformity of temperature. The estimations were done in batches of 5, and hence 5 similar short test tubes were required. Into each, 5 c.c. of casein solution are measured; 0.08 c.c. of serum (approximately) is then very exactly measured into a capillary pipette. The point may be either plunged into the serum, or if scanty it is best to open both ends of the capsule and pour the serum from capsule to pipette held mouth to mouth. It is often difficult to break the blood capsules at the thick part without breaking the capillary end.

Each casein-serum mixture is shaken up as soon as it is made, and every test tube is marked with a grease pencil; 1 c.c. of trypsin is now added by pipette to each test tube. All five test tubes are corked, shaken and incubated for four and a half hours at about 40 C. They are then cooled under the tap and allowed to stand until next morning, if, as usually happens, this is most convenient. Five little flat-bottomed, steep-sided glass cells are required, about 2 in. in diameter and 1 in. high, which can be covered with a watch-glass and immersed in a photographer's developing dish (to act as a water bath). They are numbered in correspondence with the five test tubes; 3 c.c. of fresh casein solution are now added to each test tube, and the mixture is shaken and poured into each dish. The fresh casein is added because the acid decreases the viscosity of casein and hence the amino-acids accumulated during the four and a half hours' digestion will accentuate the differences in the reading of the viscosimeter, and thus render small differences in the antitryptic activity of the serums more measurable. Also the serum will be acting in a state of greater concentration.

The five dishes now contain 6 c.c. of fresh casein-trypsin-serum digest plus 3 c.c. of fresh casein. When they have stood for an hour or two to attain a condition of temperature equilibrium with their surroundings, each solution is aspirated in turn into the viscosimeter and the number of seconds which each fluid takes to run through from the mark M. to the top of the capillary portion is measured with a stop-watch. Each observation is repeated twice, or more, if not concordant.

6. **Ovarian Grafting and Menstruation.**—The authors suggest that the female organism is during a month under the influence of a toxin, the origin of which is at present unknown, but whose action is elective for the ovary; that the toxin produces an intense congestion of the ovary and, perhaps, a special metabolism; and that then an internal secretion derived from the ovary is formed which has a special action on the uterus, and which determines the discharge of blood. They report one case in which an ovary (removed from the same patient) was implanted into the abdominal wall on the right side. For some days following the operation there was complaint of pain on the right side of the wound, and the grafted ovary was tender on palpation. These symptoms, however, quickly subsided. Five months after the operation the patient complained that the abdominal pain had returned. There had been a slight yellowish-white vaginal discharge, at times offensive, so as to require douches.

Six weeks prior to her return, ten weeks after the operation, she had acute pain in the right side of the abdomen. This pain had come on suddenly and continued six days. She noticed that there was a swelling on the right side of the abdominal wound; there was no vaginal discharge of blood. The pain gradually passed off, and her state of health again became satisfactory. Four and a half months after the operation she observed a vaginal discharge of blood accompanied by acute pain in the abdomen, and she noticed that the swelling on the right side of the abdominal wound had again appeared. She suffered also from a dull pain across the sacrum, from headache and from lassitude. This discharge which was thus associated with the usual signs and symptoms of a normal menstrual period continued for 5 days. In this case for a period of four and a half months there were present certain signs, such as the swelling of the ovary, flushings, and general lassitude, which were strong evidence of the *presence in the organism of a poison having an elective action for the vasomotor system.* After this period the grafted ovary had become permeated by new vessels originating from the parent body, newly formed blood-vessels had penetrated into the central portion of the ovary, and the menstruation, which up to that time had been in abeyance, was influenced by the grafted ovary and occurred again in the usual manner.

Lancet, London

June 25

8 The Behavior of the Leucocytes in Infection and Immunity. F. W. Andrewes.
9 *Anomalies of the Mind and the Evolution of the Mental Processes. R. Jones.
10 Administration of Public Health and Education Acts in Relation to Prevention and Cure of Diseases of the Throat and Nose. T. J. Faulder.
11 Gastrointestinal Fermentation. D. Sommerville.
12 *Hypodermic and Intramuscular Inoculation of Bacterial Vaccines as Demonstrated by Experiments with Typhoid Vaccine. D. Semple.
13 The Utility of the Antilytic Power of Horse Serum. F. C. Eve.
14 **The Treatment of Dysphagia of Laryngeal Tuberculosis by* Alcohol Injections in the Superior Laryngeal Nerve. J. D. Grant.
15 Double Dermoid Cyst of Ovaries with Rupture into the Peritoneal Cavity. R. H. Lucy.

9. **Anomalies of the Mind.**—The influence of the "environment," says Jones, is an important factor in the estimation of mental unsoundness, although it is often overlooked. The organism (or the individual) and the environment constantly act and react on each other, and any defect of accommodation on the part of man is more often an indication of insanity than is the presence of any perverted instinct. Every person is sane or *insane according* to his own standard and in relation to his own environment, so that the environment must always be considered in estimating and realizing the presence of insanity. As the surroundings become more complex with the progress of civilization, so there must grow an increased power of adaptation of the individual, and herein lies the adaptation and connotation of insanity. The study of insanity *takes notice* of these relations, and the manifestations of the mind in response to both outward and inward stimuli become a prime factor. In dealing with the subject, Jones says, it is necessary to consider man in regard to his past as well as in regard to his future, and his immediate present. It is conduct, not *illusions, hallucinations* or delusions which constitutes insanity. Hallucinations, nevertheless, are dangerous symptoms, for they force themselves on the attention and they *influence conduct.* Aural hallucinations are *often* so relentless and so tyrannical and dominant that they not infrequently *result in most* dangerous acts of violence or destructive fury.

The forms of mental disorder most prevalent *to-day*, however, are those primarily prone to attack young people. It is a variety of mental diseases so incurable and chronic that it tends to *fill asylums with hopelessly insane patients.* The report of the Commissioners in Lunacy also supports the assertion that it is more common now than formerly. These cases almost invariably commence in depression, and it is justifiable to believe that the *proportion* has arisen from 21.5 per cent. to 30.2 per cent. of *all cases* of insanity in 25 years. Last year 1,156 cases (551 males *and* 605 *females*) were received into the asylums of England and Wales. Senile insanity has increased from 11 to 20 per cent. during a period of 15 years; 888 persons (380 males and 508 females) died during the year from changes *accompanying senile decay.* Cases of insanity commencing in neurasthenia and psychasthenia are more frequently met with now than in the past. Last year's report of the Commissioners in Lunacy gives over 200 cases admitted into asylums in which these causes were given. Overstrain, over-fatigue and *over-excitement* are responsible for such nervous disease. Mental stress is recorded to have caused insanity in 4,410 persons (1,902 males and 2,508 females). These cases are an indication *of excesses of* many kinds and they reflect the accentuation *of* the struggle for existence in civilized countries, the effect of town life, the quest for pleasure, and probably *also* the marriage of the unfit.

Cases of insanity associated with alcohol show no *diminution in their incidence,* for 2,446 men *and* 992 women of this class were admitted into the asylums of England and Wales last year—a proportion of 23.3 *per cent.* males and 8.9 per cent. females on all cases admitted. Epilepsy is a frequent factor in the admissions; 7 per cent. of the men and 5 per cent. of the women admitted were the proportions recorded. It is *interesting* to note that insanity after surgical operations appears *to be on* the increase. Last *year* 106 (39 *males* and 67 females) were admitted into asylums from this cause. Cardiovascular conditions and renal disease were responsible *as a factor* in the causation of insanity in 837 persons (425 males and 412 females), and 459 persons (176 males and 412 females) were reported to have *died in asylums from* renal disease within the year. The *influenza* bacillus as a nerve toxin is, in Jones' opinion, next in importance to the *treponema pallidum as a specific cause of insanity;* 568 cases were reported as occurring after influenza. Tuberculosis *figures as* a proximate or a predisposing cause in 183 persons (98 males and 85 females), whereas 1,332 (617 males and 715 females) died during the year, showing the high mortality from tubercle in asylums for the insane. *Twenty-five persons* who were insane died from diabetes *mellitus.*

12. **Inoculation of Bacterial Vaccines.**—The immunizing response following the inoculation of typhoid *vaccine in* rabbits as measured by the presence of agglutinins and opsonins in the blood, is the same, Semple claims, whether the vaccine is *given subcutaneously or intramuscularly. In both methods of inoculation the agglutination* and opsonic changes when plotted on a chart take somewhat similar courses, and in both an increase of opsonins. The intramuscular method of inoculating bacterial vaccines possesses no *advantages whatever* over the subcutaneous method, and as the latter gives rise to *less pain and inconvenience it is to be preferred.*

14. **Dysphagia of Laryngeal Tuberculosis.**—*Six* cases of odynphagia were treated by Grant by means of this method. In each case the pain disappeared and the patient was again able to swallow in comfort. Grant uses the solution recommended by *Purves Stewart, consisting of 2 grains of hydrochlorid* of beta-eucain in an ounce of 80 per cent. alcohol. The method of injection practiced is the one recommended by Rudolph Hoffmann.

Medical Press and Circular, London

June 15

16 Cercomonas Intestinalis, or Flagellata. U. Guastalla.
17 *The Psychogenesis* of some "Reflex" Neuroses. T. A. Williams.
18 [illegible] a Health Resort. F. Hüdepohl.
19 [illegible] Principles in the Treatment of Chronic [illegible] Brown.
20 What I Should Do if I had a Dog-bite. M. Tussau.

Clinical Journal, London

June 15

21 Syphilis. W. H. White.
22 Treatment of Septic Conditions. E. M. Corner.
23 *Hemiplegia and its Treatment* (continued). G. Holmes.

Journal of Tropical Medicine and Hygiene, London

June 1

24 Tertiary Yaws. A. A. Montague.
25 Urinary Calculus in Sierra Leone. D. Burrows.

June 15

26 Cases in Which Liver Pus was Coughed up Through the *Right* and Left Lung. J. Cantlie.

Indian Medical Gazette, Calcutta

May

27 Sleeping Sickness in Uganda. E. D. W. Greig.
28 The Berhampose Asylum for the Year 1909. C. J. Robertson-Milne.
29 The Purification of Native Sewage under *Defined* Conditions. W. W. Clemesha.
30 Nervous Breakdown as Observed in Burma. C. C. Barry.

Practitioner, London

June

31 Treatment of Tuberculous Glands. W. Bennett.
32 Differential Diagnosis in Dyspepsia. R. Hutchison.
33 Jejunostomy for Advanced Cancer of the Entire Stomach. W. G. Spencer.

34 *Five Difficult Cases of Fracture Requiring Operative Treatment. W. I. deC. Wheeler.
35 Management of the Vascular Factor in Kidney Disease. A. Morison.
36 *Diagnosis and Treatment of Hemorrhage from an Unenlarged Uterus. V. Bonney.
37 *Chronic Appendicitis. F. J. Steward.
38 Before and After Gastroenterostomy. J. M. Whyte.
39 Recent Work on the Diseases of Children. H. Thursfield.
40 The Treatment of Acute Intestinal Obstruction. E. C. Bevers.
41 Bacterial Disturbances of Digestion and Consequences Thereof. W. Tibbles.
42 Skin Diseases from the Point of View of General Practice. L. E. Ellis.
43 Hernia of the Bladder. W. P. Noall.
44 *Action of Alcohol on the Human System. H. A. Haig.
45 *Vicious Circles Associated with Disorders of the Respiratory Organs. J. Hurry.
46 The Significance of Albuminuria in Diagnosis. H. Barber.

34. **Difficult Fracture.**—The cases reported by Wheeler were: (1) A compound fracture of both bones of the leg followed by a fall down the steps; (2) an ununited fracture of the tibia and fibula of 11 months' standing; the fracture in the tibia had resulted in the formation of a false joint; (3) a case of fracture of the surgical neck of the humerus, which it was found impossible to reduce after a fortnight's treatment under the guidance of a fluorescent screen; (4) a long oblique fracture of the femur; (5) an oblique fracture of the middle of the shaft of the femur. In each case repair of the fracture had been delayed for some time so that an open operation was necessary. The Lane plates were used and the results were excellent.

36. **Treatment of Hemorrhage.**—In one case of severe intractable hemorrhage Bonney performed the operation of utriculoplasty devised by Howard Kelly. The patient made a satisfactory recovery, and has been menstruating once a month regularly, but the loss only endures for one day. Her general health has immensely improved.

37. **Chronic Appendicitis.**—Steward maintains that appendicitis frequently is from the first a chronic condition that may persist for years without the patient ever having what may be termed an acute appendicitis at all. He describes a number of cases that have come under his notice and which illustrate the several varieties of the condition that may occur.

44. **Action of Alcohol on the Human System.**—Haig believes that in health alcohol in moderation may be useful, but that its continuous use is to be avoided, and one must bear in mind the fact that a certain idiosyncrasy may exist; in diseased conditions, alcohol is in many cases of great value as a therapeutic agent of a temporary nature, always provided that it is used with discretion; and that taken in excess, or in smaller quantities over long periods of time, alcohol is extremely deleterious to the human system, so much so in fact that in many instances it has induced physicians to discontinue its use as a drug on the grounds that its disadvantages outweigh its advantages.

45. **Disorders of Respiratory Organs.**—Hurry describes four so-called vicious circles which may occur in connection with disease of the respiratory apparatus: (1) Pulmonary circle: Failure of right ventricle, tricuspid incompetence, congestion of coronary vein, impaired nutrition of myocardium, congestion of lungs. (2) Pleuritic circle: Increase of fibrinous effusion, stomata blocked by fibrinous effusion, diminished escape of fluid. (3) Bronchial circle: Increased accumulation of residue, bacterial decomposition of residues in bronchiectasis, increased dilatation of bronchial tubes. (4) Tracheal circle: Increased pressure on thyroid, stenosis of trachea, dyspnea, and increased respiratory activity.

Journal of Laryngology, Rhinology and Otology, London

June

47 Congenital Insufficiency of the Palate. A. B. Kelly.
48 Dermatitis of the Vestibule of the Nose, Probably due to Menthol. D. McKenzie.

Archives des Maladies de l'App. Digestif, Paris

May, IV, No. 5, pp. 241-304

49 *External Gastric Ulcer. (De l'ulcère externe de l'estomac.) G. Hayem.
50 *Membranous Pericolitis. P. Duval.
51 *Cecal Constipation. J. C. Roux.
52 Simple Apparatus for Estimating Fermentation in Feces. R. Goiffon.

49. **External Gastric Ulcer.**—Hayem applies this term to a destructive lesion in the outside of the stomach wall, of which he has encountered 7 cases. It might also be called external mal perforant or external mixed aneurism. The lesion works through the stomach wall, reaching the mucosa last; in only 2 of his cases did the ulceration extend to the mucosa, and with perforation in only one case. His patients were men between 33 and 62 and a woman of 45, and the external ulceration was an autopsy discovery. In nearly every case there was also ulceration on the inner aspect of the stomach wall, gastritis or cancer. The original cause seems to have been some neurotrophic disturbance.

50. **Membranous Pericolitis.**—Duval reports 4 cases apparently similar in every respect to those recorded by J. N. Jackson last year. In Duval's cases there was a painful point below the costal arch too far outward and too low to be referred to the gall-bladder, and palpation of the cecum showed it distended with gas, without any special painful point. But the entire ascending colon was painful and there was transient retention of feces in the region. An inflammatory origin for the disturbances was evident in his cases instead of the malformation of the peritoneum with which Jackson explains some of the cases.

51. **Cecal Constipation.**—Roux reports two cases which resemble the type described by Duval and Jackson but the obstruction in his cases was from adhesions at the right angle of the colon. Constipation from obstruction at this point is peculiarly harmful as the feces are kept in a semifluid condition by the constant arrival of intestinal juice from the small intestine. This permits absorption and consequent chronic intoxication, the results much more serious than when the feces stagnate in the rectum or descending colon. When they reach this region they are dry and bacterial life is arrested. The bowel contains here merely hard dry bodies without toxic action. In both Roux's cases no benefit was derived from medical measures but conditions rapidly improved after laparotomy with separation of adhesions and resection of superfluous omentum in one case.

Archives des Maladies du Cœur, etc., Paris

June, III, No. 6, pp. 337-400

53 Intravascular Hematolysis. (Hématolyse in vivo.—Hématogenèse.—Maladies autogènes du sang.) G. Froin.

Annales des Maladies des Org. Génito-urinaires, Paris

May 1, XXVIII, No. 9, pp. 769-864

54 Cancer of the Bladder with Almost Exclusive Metastasis in the Liver. (Néoplasme de la vessie. Généralisation hépatique presque exclusive.) J. Ferron and P. Nadal.

May 15, No. 10, pp. 865-960

55 *Diagnosis and Treatment of Unilateral Hematuric Nephritis. R. M. Fronnchtéine.

55. **Hematuric Nephritis.**—A case reported and the data in the literature seem to establish beyond question that copious hemorrhage in a kidney can occur only with some anatomic lesion in the parenchyma of the organ. Both kidneys may be involved in the acute hemorrhagic inflammation. When only one kidney is affected nephrectomy may become necessary. In the case described the patient was a healthy man of 32 and cancer was diagnosed on the basis of the periodical pain in the right kidney region, right hematuria and emission of vermiform clots, the positive antitrypsin reaction and emaciation. No tumor was found in the kidney but merely evidences of a hematuric connective-tissue nephritis. The severity of the hemorrhages and the rapid recovery after removal of the focus amply justified the intervention.

Bulletins de la Société de Pédiatrie, Paris

May, XII, No. 5, pp. 245-288

56 Permanent Benefit from Wedge Osteotomy in Case of Rachitic Incurving of the Tibia. V. Veau.
57 *"Caked" Purulent Pleurisy in Infants. (La pleurésie purulente en galette chez le nourrisson.) P. Armand-Delille.
58 *Localization of Pneumonia in Children. (Topographie des localisations pulmonaires de la pneumococcie infantile.) E. Weill and G. Mouriquand.
59 *Streptococcus Scarlatinal Meningitis. E. Weill and J. Chalier.
60 *Delirium in Tuberculous Meningitis in Children. G. Mouriquand.

57. **"Caked" Purulent Pleurisy in Infants and Young Children.**—Delille has encountered a number of cases of a circumscribed accumulation of pus and false membranes over the

pleura, the pus in the center still fluid but very thick. The "cake" thus formed may be from 1 to 4 inches in diameter but is never over an inch thick. It develops during the course of bronchopneumonia, and an exploratory puncture may reveal the presence of pus generally containing pneumococci. The layer of pus is thin and it is difficult to siphon out even as much as 20 or 40 gm. Healing is soon complete in the favorable cases, the remaining pus being speedily absorbed. The cases of *purulent pleurisy in which cure follows simple exploratory puncture* probably belong in this group.

58. **Localization in the Lung of Pneumonia in Young Children.**—The pneumococcus seems to attack by preference the left base and the right apex of the lungs in children, according to Weill's experience. In 240 cases this tendency to a localized process was evident in all but 40. The cases in which *pneumonia was limited to the right apex* were all of a mild type while complications were observed in 30 per cent. of the cases in which the base of the lung was affected. This proportional severity of the process differs from that in adults, the apical lesions being generally more severe in adults.

59. **Streptococcus Scarlatinal Meningitis.**—Weill found only one case of meningitis in 1,369 cases of scarlet fever at the Lyons Charité Hospital, and Gouget found only 20 on record. To these Weill adds the report of another case, the meningitis developing in a boy over 7 with apparently mild scarlet fever. The seventh day meningeal symptoms developed and autopsy revealed signs of suppurative cerebrospinal meningitis.

60. **Delirium in Tuberculous Meningitis.**—Mouriquand reports a case of tuberculous meningitis in which signs of involvement of the *medulla oblongata* were lacking and delirium predominated. The meningitis affected mostly the convexity of the brain with slight basal lesions. The delirium was systematized and tranquil, the child a girl of 11, conversing gently with imaginary persons.

Lyon Chirurgical, Lyons

June, III, No. 6, pp. 605-734

61 Two Hundred and Eight Gastroenterostomies with the Jaboulay Button. (Statistique de gastro-entérostomies faites avec le bouton anastomotique qui tient en place sans sutures.) M. Jaboulay.
62 Pneumotomy for Abscess in the Lung in 7 Cases. (L'ouverture des abcès du poumon.) E. Delanglade and J. Fiolle.
63 Isolation of the Duodenum and Pancreas. G. Cotte and L. Maurizot.

Lyon Médical, Lyons

May 29, XLII, No. 22, pp. 1109-1152

64 *Anastomosis of Mesenteric and Ovari[illegible] Cirrhosis of the Liver. (Suture [illegible] un cas de cirrhose du foie.) E. Villard and L. Tavernier.

June 5, No. 23, pp. 1153-1188

65 Acute Delirium in Malignant Gonorrheal Endocarditis. S. Bonnamour and P. Gauthier.
66 *Diphtheria Antitoxin in Local Treatment and Prophylaxis of Various Infectious Processes. L. Thevenot.

64. **Venous Anastomosis in Treatment of Cirrhosis of the Liver.**—Villard and Tavernier are convinced that benefit is sure to follow an anastomosis in the lumbar region between the main inferior mesenteric vein and the left utero-ovarian in case of cirrhosis of the liver with ascites. They cut the veins and unite the stumps with an end-to-end suture, merely ligating the one stump of each vein left loose. This technic they say is preferable to side-to-side union or other methods. In the one clinical case in which they applied this principle in treatment of cirrhosis of the liver, the patient was in such *advanced cachexia* that he was unable to rally. The technic was also faulty, as other veins were used and one was bent and a thrombus developed at the point. Subsequent work on the cadaver showed the superiority of the technic described above.

66. **Local Application of Diphtheria Antitoxin.**—Thevenot advocates local application of desiccated antitoxin as an adjuvant in treatment of diphtheria and also as a precautionary measure for a time after recovery. Tablets of the desiccated serum, allowed to melt in the mouth, will aid in sterilizing the throat after recovery. It may be possible in this way to reduce the number of bacilli carriers. The local applications may also render the mucosa less apt to contract the infection from others.

Presse Médicale, Paris

June 15, XVIII, No. 48, pp. 441-448

67 Recent Research on the Origin and Development of the Lymphatics. J. Jolly.

June 18, No. 49, pp. 449-464

68 Cycle of Evolution of the Islands of Langerhans in the Pancreas. (Importance des ilots endocrines et de leur cycle évolutif dans la physiologie normale et pathologique du pancréas et particulièrement dans le diabète.) E. Laguesse.
69 *Syphilis and Sciatica. Lortat-Jacob and Sabaréanu.
70 Resistance of the Blood Corpuscles in Jaundice. (La résistance globulaire au cours de l'ictère.) J. Chalier.
71 *Pathogenesis and Treatment of Hernia of the Large Intestine.* R. Leriche.
72 *Emetics in Treatment of *Paroxysmal Tachycardia.* E. Devic and P. Savy.

69. **Syphilis and Sciatica.**—Lortat-Jacob urges careful search for *syphilis in every case of sciatica* of radicular origin for which no other cause can be discovered. His experience shows that the sciatica may disclose an unsuspected syphilis in its tertiary phase.

72. **Induction of Vomiting in Treatment of Paroxysmal Tachycardia.**—A previous communication by Savy on this subject was reviewed in The Journal, April 9, 1910, page 1240. Further experience has definitely confirmed, he asserts, the therapeutic efficiency of an emetic in arresting the crisis. It has never failed in any of his cases. The emetic probably acts on the medulla, confirming the bulbar origin of these attacks.

Semaine Médicale, Paris

June 22, XXX, No. 25, pp. 289-300

73 *Heredity as an Etiologic Factor in Cancer. R. de Bovis.

73. **Influence of Heredity on Incidence of Cancer.**—The conclusions of de Bovis' review of recent research on this subject are that heredity does play some part in the incidence of cancer, but not to the extent popularly assumed. At the present time there is probably *no one living*, he says, without one or more ancestors who have had cancer. If the influence of heredity were more potent every one over the age of 50 would therefore expect to die of cancer barring accidents or acute disease. The fact that this is not the case and study of vital statistics render very problematic any real decided increase in the prevalence of cancer. It is possible that an immunizing process occurs in course of time which prevents the cancer taint from passing beyond one or two generations. This would explain, he remarks, why succeeding generations of Bashford's cancer mice families do not seem to display any tendency above the average proportion to develop cancer. Research by Tyzzer, Mayet, Haaland in Norway, and the collective inquiries in *Germany and Holland* all confirm the influence of heredity, possibly increasing the chance of cancer by about 25 per cent. A point that has not been brought out with sufficient emphasis, he adds, is that the proportion of cancerous parents or grandparents must not be compared with the prevalence of cancer in our day but with the prevalence in the generation to which they belong. It will thus be seen that the incidence of cancer in the cancer families is unmistakably though slightly above the average. The negative conclusions in a collective inquiry in Hungary are evidently due to lack of authentic family histories among the Hungarian peasants.

Berliner klinische Wochenschrift

June 6, XLVII, No. 23, pp. 1045-1092

74 Ferments and Radioferments in Therapeutics. A. Sticker and E. Falk.
75 **Pregnancy and Diabetes.* (Schwangerschaft und Zuckerkrankheit.) F. Hirschfeld.
76 [illegible] Organ Extracts. (Wirkung der Organ- [illegible] onath.
77 [illegible] of Tuberculous Excreta. (Die neuesten [illegible] eriologischen Tuberkelbacillennachweises in verschiedenen pathologischen Excreten.) J. A. Finkelstein.
78 Determination of Stomach Ferments in the Urine and Their Diagnostic Significance. (Nachweis der Magenfermente im Urin.) E. Fuld and K. Hirayama.
79 Cooling of the Inspired Air in Ether Anesthesia. (Ueber die Abkühlung der [illegible] bei der Aethertropfnarkose, ihre Bedeutung [illegible] M. Hoffmann.
80 Superheated Air, [illegible] nd Vibratory Massage in Conservative [illegible] konservativen Behandlung in der Gynäkologie.) E. Runge.
81 [illegible] Radium. F. Eichholz.
82 * [illegible] edical Students. (Die Aussichten der Medi- [illegible]

75. **Pregnancy and Diabetes.**—Hirschfeld has encountered 4 cases of diabetes in young pregnant women and the diabetic functional disturbances became aggravated during the third and fourth months, but diabetic coma did not occur in any case during or closely following the pregnancy. This aggravation of the diabetes may subside or persist. The fact that pregnancy aggravates diabetes renders the prognosis comparatively more favorable when diabetes develops during pregnancy. Experience has shown that women have their power of carbohydrate oxidation reduced during pregnancy, even when they are otherwise normal. Glycosuria was observed in 10 per cent. of healthy pregnant women after intake of 100 gm. sugar, and when there was a nervous predisposition this pregnancy glycosuria developed on an ordinary diet. The mild form of diabetes does not seem to affect the fetus unfavorably.

82. **The Outlook for Medical Graduates.**—The Berlin Letter recently mentioned the circular which the Leipsic League is distributing, calling attention to the overcrowded condition of the medical profession in Germany. It states that only 618 places could be secured for the 898 applicants last year, 280 not finding a location, while the number of medical students enrolled at the present time is nearly a thousand more than last year. Official statistics show that the income of 34.8 per cent. of the physicians in Saxony is less than $1,075 and only 44.8 per cent. have up to $1,575, which is the very least amount on which a physician can live and bring up a family. The above figures include also all income from private property or other sources in the family. When the new legislation goes into effect making insurance against sickness compulsory on all with an income up to $500, only 8 per cent. of the total population will be exempt; that is, there will be only 62 families for the individual physician to draw on. If after years of waiting he obtains a position with the insurance company the work is tremendous, the pay far below that which was considered the minimum rate in 1815, and he is dependent on persons possibly his social inferiors, with their favor bestowed or withdrawn frequently for extraneous reasons, and the position of the medical man thus loses the prestige it had of yore. A single slight blunder may be regarded as malpractice and ruin him forever, while quacks thrive and in many places outnumber the physicians and are pardoned the grossest errors as "better cannot be expected of them on account of their lack of training." The circular adds that these are the conditions confronting the graduates of the longest and most expensive of the university courses. The medical course requires 6½ years. The expense averages at the most modest computation $2,500, the extras for practical instruction, for examination, for graduating exercises, books, instruments, etc., are large, and capital is required for opening an office and living expenses until a practice materializes. The physician is scarcely ever able to lay anything by for the future or pay much for life insurance, and if he becomes incapacitated he has no provision, no pension and there is nothing for his widow and orphans after his death. The relief funds maintained by the contributions of physicians in certain societies suffice only to keep incapacitated medical men and the numerous widows and orphans from actual starvation. This circular is being distributed in all the high schools and colleges throughout Germany.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

June 3, XIII, No. 9, pp. 321-368

83 Non-Operative Measures Applied in Treatment of Carcinoma to Date. (Die medikamentöse, diätetische und Fermenttherapie des Carcinoms.) E. Venus. Commenced in No. 6.

Deutsche medizinische Wochenschrift, Berlin

June 9, XXXVI, No. 23, pp. 1065-1112

84 *Diagnosis and Treatment of Fracture of the Skull. (Diagnostik und Behandlung der Schädelbrüche.) E. Payr. Commenced in No. 22.
85 *Operative Treatment of P[illegible] (Zur Operation des perforierten [illegible] [illegible]ühsam.
86 Alcohol Sterilization of the I[illegible] . Scrubbing. Schumburg.
87 *Treatment of Severe Anemia by Intramuscular Injection of Blood. O. Huber.
88 Ambulant Tuberculin Treatment. Beninde.
89 *Treatment of Severe Bronchopneumonia in Young Children. J. Ibrahim.
90 *Nature and Importance of Rigidity of the Muscles as Sign of Tuberculous Apical Disease. (Wesen und die Bedeutung [illegible] in als Zeichen der tuberkulösen [illegible]. C. Hart.
91 [illegible] Palpation." (Leichte Tastpalpa-

June 16, No. 24, pp. 1114-1160

92 Treatment of the Hemorrhagic Diathesis. H. Arnsperger.
93 *Presence of Tubercle Bacilli in the Blood and its Diagnostic Importance. (Vorkommen von Tuberkelbazillen im kreisenden Blute.) F. Jessen and L. Rabinowitsch.
94 Modifications of the Wassermann Reaction no Improvement over Original Technic. (Ueber die sogenannten "Verfeinerungen" der Wassermannschen Reaktion.) C. Stern.
95 Thirty Additional Cases of Irises Not Matching in Color. (Heterochromia iridum.) A. Lutz.
96 Commercial Tablets for Spinal Anesthesia Not Always Sterile. (Zur Frage der Sterilität der Novokain-Suprarenintabletten.) K. H. Kutscher.
97 Cholin Not Effectual in Experimental Sterilizing of Rabbits. (Ueber die angeblich sterilisierende Wirkung des Cholins.) F. Schenk.
98 The Early Therapeutic Reaction to the Roentgen Rays. (Die röntgen-therapeutische Frühreaktion.) H. E. Schmidt.

84. **Treatment of Fracture of the Skull.**—Of course, Payr remarks, the fracture itself cannot be treated, and to date there is no certain means for prophylaxis of meningitis, but much can be done to relieve the resulting injury of the contents of the skull, by lumbar puncture and puncture of the ventricles and Cushing's method of decompression trephining. The latter especially Payr regards as extremely important, both for the present and future. Lumbar puncture alone may relieve compression and by evacuating the bloody fluid will prevent irritation of the sensitive meninges and development of adhesions later. Puncture of the ventricle may prove a life-saving measure in case of a focus resulting from a contusion near the lateral or third ventricle. Traumatic internal hydrocephalus is comparatively frequent, even after slight injury, the free circulation of fluid being hampered by some anatomic changes or valve formation. In a recent case there was hemorrhage from ears and nose and facial paralysis with signs of compression of the brain, vomiting, headache, and pulse at first 50 and gradually increasing to 150. Withdrawal by lumbar puncture of a clear and sterile spinal fluid under 200 mm. pressure was followed by great improvement. A few weeks later a granuloma had to be removed from the ear, and the brain symptoms recurred; pulse 145, subfebrile temperature, vertigo, severe headache especially in the occiput, and the patient, a man of 24, did not reply coherently to questions but wept quietly all the time. On suspicion of an abscess the cerebellum and temporal lobe were punctured. Above and a little behind the mastoid process the needle encountered an accumulation of a clear fluid which spurted under high pressure; about 55 c.c. of fluid was thus released and all the symptoms had subsided by the end of 24 hours.

85. **Operation for Perforated Gastric Ulcer.**—Mühsam reports three cases in which perforated gastric ulcer was successfully sutured and a gastroenterostomy made. Radiographs of the cases afterward show that the gastroenterostomy is working well. In nine other cases the patients succumbed notwithstanding operative treatment. His experience confirms the importance of a prompt operation and the superior advantages of suturing in the ulcer, reenforcing the suture with a piece of omentum. Only when this is impossible should excision be considered.

87. **Treatment of Serious Anemia with Intramuscular Injections of Blood.**—Huber remarks that no actual progress has been realized of late in treatment of pernicious anemia. The trouble is seldom recognized early enough for effectual treatment, but his experience with four cases seems to confirm the possible benefit from transfusion of small amounts of defibrinated blood injected into the gluteal muscles. He describes these cases in detail, tabulating the blood findings, weight, etc., the figures showing the notable improvement that followed the injections. The first patient was a woman teacher with symptoms of severe pernicious anemia for three years. After 14 injections of 10 or 20 and up to 50 c.c. of blood in the course of 11 weeks the reds increased from 1,200,000 to 4,500,000 and the hemoglobin from 18 to 92 per cent. The benefit was equally striking in the case of a man of 41, given 9 injections in less than 3 months, the reds increasing to 5,200,000. In a young girl with ordinary anemia and chlorosis the hemoglobin increased from 40 to 75 per cent.

and the reds from 3,200,000 to 4,800,000. The blood injected subcutaneously does not pass directly into the circulation and is still evident four or five days later at the point, the reds still retaining largely their normal shape and staining properties, but the hemoglobin probably lakes out into the circulation and thus aids in restoring normal conditions in the general blood supply, or the injected blood may provide certain other substances lacking in pernicious anemia. The injections do not act on the cause of the anemia, and arsenic is needed for this. By-effects were rare and slight, merely occasional painfulness at the point of injection, most common when the gluteal muscles were firm and hard.

89. **Treatment of Bronchopneumonia in Young Children.**—Ibrahim urges the systematic use of inhalation of oxygen, or at least abundance of out-of-door air, and feeding through a stomach tube in the severe cases of bronchopneumonia in young children. He regards it as extremely important to keep the child well nourished and when it cannot feed naturally, he gives the food through a Nélaton catheter passed through the nose into the stomach. In one severe case he brought the infant through by feeding it in this way for several weeks with freshly drawn breast milk. Special care in the diet is necessary to prevent formation of gas in the stomach, as it pushes up the diaphragm and hampers the functioning of the diseased lung. He has not witnessed much benefit from expectorants, while they disturb the digestive apparatus. Heart tonics are useful or indispensable as anything that improves the circulation through the lungs has a beneficial influence on the pneumonic process. The latter taxes the heart more and more so that the heart needs strengthening by artificial aid, and heart tonics should not be postponed until a last resort. Even infants bear well repeated small doses of camphorated oil. Good nursing is indispensable to ensure the carrying out of the physician's orders, which should be explicit in every point in regard to the baths to reduce the temperature, the oxygen, frequent change of position, spraying and heart tonics.

90. **Rigidity of the Muscles and Apical Disease.**—Hart regards the rigidity of the muscles over the apex of the lung as a sign of a mechanical predisposition to disease, but no evidence that disease is already installed. He is prosector at the Schöneberg hospital and his findings contradict those of Pottenger in regard to the diagnostic significance of this rigidity.

93. **Tubercle Bacilli in the Blood.**—The bacilli were found in the circulating blood in 2 out of 12 patients in the early stages of tuberculosis and in only 5 in the third stage. The discovery of tubercle bacilli in the blood in incipient tuberculosis may thus prove a useful aid in early differentiation of the disease, but it does not seem to be of much importance for the prognosis.

Fortschritte der Medizin, Leipsic

June 2, XXVIII, No. 22, pp. 673-704

99 Flat-Foot. (Der Plattfuss.) G. Muskat.
100 *Foreign Bodies in the Heart. (Ueber Fremdkörper im Menschenherzen.) D. G. Zesas. Commenced in No. 21.

100. **Foreign Bodies in the Heart.**—Zesas tabulates 118 cases of foreign bodies in the heart which he has found on record. In 54 cases the foreign body was a needle, in 38 a bullet, but the list includes also nails, a thorn, a gold plate, an iron peg, splinter of wood or bone and a hairpin. The astonishing tolerance of the heart for a foreign body loose in its interior is demonstrated anew by some of the cases. Pointed objects, however, generally work into the heart wall and cause such disturbances that an attempt to remove them is justified and the list shows that this has been done in many cases. In 12 cases the foreign body had evidently reached the heart from the alimentary canal, in 4 through the blood vessels, and in 1 from the air passages. In only 96 had the projectile or other foreign body been propelled through the chest wall.

Medizinische Klinik, Berlin

June 5, VI, No. 23, pp. 889-926

101 *Bronchial Asthma in Relation to the "Exudative Diathesis." A. v. Strümpell.
102 *Physical Treatment of Bronchial Asthma. L. Hofbauer.
103 *Convulsions in Whooping-Cough and Their Treatment. (Krampfanfälle im Verlauf des Keuchhustens und deren Behandlung.) J. Ibrahim.
104 [illegible] Measures on the Wassermann Reaction. [illegible] Zittmannschen Kur auf den Ausfall der Wassermannschen Reaktion.) K. Stern.
105 Peculiar Form of Industrial Mercurial Poisoning. (Gewerblicher [illegible] tz.
106 *Importan[illegible] Angina Pectoris. (Wirk[illegible] peroxyds bei steno-kardis[illegible]
107 Occurren[illegible] and Gärtner Group in Non [illegible]

June 12, No. 24, pp. 927-966

108 *Pathology of [illegible]. (Klinische Betrachtungen zur Lehre von [illegible] der Nebennieren beziehungsweise des [illegible]) E. Münzer.
109 *Operative Treatment of Puerperal Infection. (Zur chirurgischen Therapie des Puerperalprozesses.) W. Latzko.
110 Extraperitoneal Cesarean Section. (Der extraperitoneale Kaiserschnitt.) H. Fuchs.
111 Infection from Paracolon Bacilli. (Zur Kenntnis der Parakolibazillose.) A. Schutze.
112 Measurement of Volume of Air Breathed. (Ueber Atemvolummessung.) H. Gutzmann.
113 Dislocation of the Ulnar Nerve. Grunert.
114 Two Cases of Malignant Syphilis. K. Piorkowsky.
115 *Treatment of Tuberculosis with Natural Human Serum. H. [illegible]
116 [illegible] with the Wassermann Reaction. E. [illegible]
117 Technic for Quantitative Determination of Bromin. H. v. Wyss.

101. **Bronchial Asthma a Manifestation of the Exudative Diathesis.**—Von Strümpell makes a strong plea for the inclusion of bronchial asthma in the group of affections distinguished by a constitutional irritability of the nervous system and the tendency to exudative processes in the most various parts of the body, as in urticaria, eczema, intermittent swelling of the joints, angioneurotic edema and nasal and intestinal catarrh. He mentions also migraine as a candidate for this group and thinks that bronchial asthma is a typical instance of this constitutional tendency, as also membranous enteritis. In the latter the secretory disturbances in the mucosa of the large intestine are accompanied with spasmodic contraction of the bowel, analogous to the spasm of the bronchi with this form of asthma. Colica mucosa may thus be entitled "intestinal asthma." The causal connection between the various members of the group are often encountered in the one individual or in members of the same family. The conception of the exudative diathesis in children thus throws light on these affections in adults, which hitherto have been regarded as isolated, but now can be seen to be linked together on a constitutional basis. The nervous factors explain the benefit at times from atropin and other drugs and suprarenal preparations, although the individual reaction varies. His patients have been benefited most by the alkaline iodids and systematic application of incandescent electric light baths. Both act on the secretory processes in the body and have proved effectual in his hands, supplemented by dietetic restrictions, especially to prevent overfeeding.

102. **Electric Light Baths in Bronchial Asthma.**—Hofbauer remarks that bronchial asthma is the latest child adopted by physical therapy and even yet clinical medicine looks askance on this adoption. The incandescent light baths induce active hyperemia of the skin, reducing the congestion in the bronchi, while the heat causes a reflex prolongation of the respiration. The baths should be supplemented by breathing exercises to lengthen the phase of expiration while the patient emits a musical note. Hofbauer has cured a number of patients by these breathing exercises, the cure remaining complete for over two years. By training the patients to avoid irritating the vagus with hasty breathing, the expiratory insufficiency, and thus the distress, is combated and the cause for the attack eliminated.

103. **Convulsions in Whooping-Cough.**—Ibrahim found that a brain tumor was responsible for the convulsions in the course of whooping-cough in one case. In two others the use of packs to induce sweating aggravated the condition, and these cases warn against procedures of the kind with a tendency to convulsions. In every case of whooping-cough with convulsions the diet should be regulated to combat the spasmophilic diathesis, avoiding cow's milk and giving phosphorus in cod liver oil, with lumbar puncture in the severer cases. Eckert has recently reported 4 cases in which lumbar puncture seemed to have turned the scale in favor of recovery.

106. **Dyspepsia as Factor in Angina Pectoris.**—Chlapowski has become convinced that dyspeptic disturbances are responsi-

ble for or at least aggravate angina pectoris in many cases and that great benefit can be derived from magnesium oxid and peroxid to neutralize abnormal production of gases and the gastric juice, and promote bowel functioning. Regulation of the diet between attacks is of supreme importance.

108. Pathology of the Suprarenals.—Münzer insists on the necessity of distinguishing between arteriosclerosis of the large vessels and of the smaller, the clinical manifestations being quite different. When the large vessels are affected with arteriosclerosis there is no obstruction to the circulation and the blood pressure is not raised. The work of the heart at each contraction is not much increased and consequently there is little, if any, enlargement of the heart. The blood wave reaches the periphery unobstructed and the pulse is full. The picture is different when the smaller vessels are affected with arteriosclerosis. Here the obstruction is so pronounced that the blood pressure rises, the second aortic sound is abnormally loud and the heart becomes hypertrophied. The higher blood pressure precedes the changes in the kidney, resulting in contracted kidney. The primary cause is some disturbance in the suprarenals, as he shows by 6 typical instances of Addison's disease in patients from 16 to 66 years old. In each case there were depression, vomiting, diarrhea, repugnance to food. Tuberculosis was evidently the cause in 2 cases but in 2 others the etiology was obscure; gonorrhea or influenza might be incriminated in the others.

109. Surgical Treatment of Puerperal Fever.—Latzko reviews the autopsy findings in 231 cases of fatal puerperal fever, the mortality being 33 per cent. Peritonitis was responsible for the fatality in more than half the cases. Hysterectomy is generally too serious an operation in these conditions and the best results were obtained with laparotomy and drainage. He had 17 patients recover out of 80 treated in this way. The prognosis depends more on the eventual paresis of the intestine than on the quality of the pulse; some of the patients were saved when the pulse was so weak that anesthesia was contraindicated, while only one of the patients with paralyzed bowels was saved, and in this case two fistulas had been opened into the intestine. It is possible, he remarks, that better results might be obtained if fistulas were made earlier and in sufficient numbers. In 19 of the severest cases the uterus was removed, with recovery of 8 of the patients, even with extension of the process into the veins. Puerperal parametritis, he adds, is the phlegmasia alba dolens of the broad ligament. His experience indicates that operative treatment is required not only for processes in the uterus, with fever, inflamed myoma, or retention of fetal membranes that cannot be removed otherwise, but also for cases in which the temperature persists over 39 C. (102.2 F.) for more than 24 hours; only 4 of the patients survived in 23 of his cases of this kind; that is, the mortality was 83 per cent. Operative treatment is also indicated in cases with repeated and frequent chills, and cases in which clinical observation leaves a doubt as to possibility of spontaneous recovery, his view being that we are responsible not for operating but for not operating.

115. Treatment of Tuberculosis with Natural Human Serum.—Lichtenstein has found that injection into the wall of the abdomen of 2 or 5 c.c. of natural human serum seems to have a stimulating and curative action, inducing a transformation comparable to that from a change to a mountain climate.

Monatsschrift für Kinderheilkunde, Berlin

April, IX, No. 1, pp. 1-64

118 *Etiology of the Spasmophilic Diathesis. R. Quest.
119 *The Cammidge Reaction in Children. P. Grosser and H. Kern.
120 *Lime Metabolism in Tetany. (Kalkstoffwechsel bei Tetanie.) J. A. Schabad.
121 Case of Typhoid in Nursing Mother and Babe. (Milch- … on Typhus abdom-
122 * … (Zur Aetiologie des … H. Rietschel.
123 … Pies.
124 … n of Human Milk. … der Konservierung … E. Pribram.

118. Etiology of the Spasmophilic Diathesis.—Quest reports the results of experimental research and clinical experience by himself and others, all of which confirms the assumption that a lack of lime is the main factor in the development of tetany. This lack of lime may result from various causes but the principal one is an unsuitable diet, an excess or imperfect digestion of milk-fat causing the latter to seize on the lime and eliminate it in the lime soap stools, regardless of the amount of the intake. An exclusive carbohydrate diet, on the other hand, may fail to supply an adequate proportion in the food. The remarkable influence of phosphorus-cod-liver oil is due to its favoring retention of lime rather than to any direct antispasmodic action. His research suggests further a possible advantage from injections of lime salts as an adjuvant with a long chronic and inveterate tendency to tetany.

119. The Cammidge Reaction in Children.—Grosser and Kern have applied this test to 65 infants and obtained a positive reaction in 8 infants, that is, in 13 of the 130 tests. The test revealed the presence of lactose even when other tests failed, but the reaction did not seem to have any special significance for the prognosis or have anything to do with the pancreas.

120. Lime Metabolism in the Spasmophilic Diathesis.—Schabad reports further research in this line comparing his results with those of others, during and between the periods of pronounced tetany, and with and without administration of phosphorus and cod liver oil, and also as to the electric excitability. All confirm the beneficial action of phosphorus-cod-liver oil, both on the spasmophilic diathesis and in rachitis, both improving together when associated.

122. Etiology of Cholera Infantum.—One room in the Infants' Asylum at Dresden in charge of Rietschel is kept at a temperature of 27 or 28 C. (82 F.) for the use of the prematurely born, instead of individual incubators. Other infants were sometimes kept in this room until he noticed that they all developed diarrhea. This suggests that the heat alone—aside from the nature of the food—may have a direct injurious action on young children. In the homes of the poor in summer this temperature of 28 C. (82 F.) is often surpassed. The causal factor in cholera infantum may thus be the heat in the living rooms, reducing the tolerance for injurious influences from the food.

Münchener medizinische Wochenschrift

June 14, LVII, No. 24, pp. 1265-1320

125 Ligation to Exclude Limbs from Circulation as Substitute or Adjuvant for Venesection. (Ueber den Aderlass bei Kreislaufstörungen und sei… z.) D. v. Tabora.
126 Ge … eitung der Strep- … und ihre hämoly-
127 Ob … and in Maternities. (Geburtshilfe im Haus und in der Klinik.) M. Nassauer.
128 Treatment of Hypertrophy of the Prostate. L. Kielleuthner.
129 Serodiagnosis of Syphilis …
130 Cell Inclusions in … ert.
131 Three Cases of Chro … in Children. F. Branuenberg.
132 Or … stolic Blood Pressure. (Messung des … auf optischem Wege.) M. z. Verth.
133 Th … s Confirmed by Progress of Science. (ist di … ntheorie mit den tatsächlichen … P. Ehrlich and H. Sachs.
134 *Importan … ease i … neuen … form.) … in No. 25.

134. Enlargement of the Therapeutic Scope of Lavage of the Stomach.—Strübe for over a year and a half has been applying lavage of the stomach as a means to influence adjacent organs, and he reports favorable results in diabetes, liver affections, etc. His statements are so remarkable that his communication was not allowed to be presented at the recent annual meeting of the German internists but the *Wochenschrift* prints it in full. The lavage, he says, stimulates the circulation in the region and this promotes absorption, and this is particularly beneficial in the secondary diabetes due to injury of the pancreas from gastrointestinal catarrh, constipation, duodenal ulcers or pneumonia of the left lower lobe—cases of all these types being among his clinical material. The frequent coincidence of gastrointestinal disturbances with diabetes suggests that essential diabetes may often commence with mere secondary glycosuria, which could be readily cured in time by appropriate measures. The case histories of 10 cases of diabetes are given to illustrate the prompt benefit from repeated lavage. Instead of weeks and months of dietetic restrictions, he says. lavage repeated a few times banished the sugar from the urine and the patients were able to eat carbohydrates at will even without any restrictions as to diet. Lavage of the stomach should at least be given a trial, he declares, in every case of diabetes, especially in the incipient phases. In biliary affections, siphonage through the stomach sound starts an outward flow of bile which may have a curative effect; it should be given a trial with chronic typhoid bacillus carriers. In every case of catarrhal jaundice he keeps the patient in bed for three or four days with cold water compresses to the gall-bladder region and then commences the lavage. At the first application the bile flows out in a stream with the rinsing water and by the end of the week recovery is generally complete. The first acute catarrhal manifestations must be allowed time to subside before the lavage is applied, but treatment on these principles has given gratifying results constantly in the four years since he has been applying it. The relief of the liver from congestion ensured by this technic is a potent factor in the cure. In one case described the gush of bile induced by the lavage washed out an impacted gall-stone in the common bile duct, and he now applies lavage systematically in all gall-stone cases, especially after operative treatment, and in case of a bile fistula. The lavage has also proved effectual in relieving pruritus ani, and other toxic skin affections, obstinate acne accompanying chronic gastritis, etc. Psychoneuroses connected with stomach disturbances and neurasthenia also benefit by lavage of the stomach, as he illustrates by some concrete instances, insisting that psychoneuroses and neurasthenia in general will have to be placed on a broader hygienic-dietetic basis. Bronchial asthma also benefits by lavage of the stomach, possibly by the relief to the circulation in the lungs in addition to its reflex and cleansing action. He burns with a hot nail about a dozen extra holes above the usual side openings in the stomach tube; they serve as safety valves and aid in more thoroughly flushing the stomach. The teeth are held apart with a rectangular block of hard rubber with a groove in the top in which fits the stomach tube; such a block, with all plane surfaces, is more readily sterilized than the ordinary gags.

Therapie der Gegenwart, Berlin

July, LI, No. 6, pp. 241-288

135 The Tenacity of Cellular Activity and Its Relation to Pathology. (Ueber die Tenazität der Zelltätigkeit und ihre Beziehungen zur [illegible]
136 *Mechanism of Acti[illegible] l Pneumothorax in Treatment of [illegible] C. Forlanini. Commenced in No. 5.
137 *Practical Availability of the Desmoid Reaction. (Die Brauchbarkeit der Sahlischen Desmoidreaktion in Klinik und Praxis.) Weiland and Sandelowsky.
138 *Long Cocoa Butter Suppositories to Promote Defecation with Proctitis, etc. (Ueber Klystier-Ersatz-Therapie.) W. Unna.
139 Treatment of Amebic Dysentery. E. Axisa.
140 Treatment of Delirium Tremens with Veronal. E. von der Porten.
141 *Treatment of Erysipelas with Heat. (Ein altes in Vergessenheit geratenes hyperämisierendes Mittel.) C. Ritter.
142 *Intermittent Limp. (Ueber Gangstockung—intermittierendes Hinken.) G. Muskat.
143 Coarse Food for [illegible] astric Secretion. [illegible] nisch reizender [illegible]
144 [illegible] of Bubbles in Oxygenated and Carbonated [illegible] der Bläschen im Ozetbade und im Kohlensäurebade.) L. Sarason.
145 *Training Children to Prevent Tendency to Constipation. (Ist die Ausdrucksweise "angeborene Hartleibigkeit" eine richtige Bezeichnungsweise?) R. B. Budberg.

136. **Artificially Induced Pneumothorax in Pulmonary Tuberculosis.**—Forlanini here lays down more carefully the fundamental principles of this method of treatment and presents a number of instructive cases from his extensive experience as he has followed them through a number of years.

137. **Availability of the Desmoid Reaction in General Practice.**—This communication from the medical clinic at Kiel in charge of Lüthje relates experiences with 145 cases of various stomach affections in which the functioning of the stomach was investigated by Sahli's desmoid test; that is, ingestion of a stain wrapped in a square of fine rubber tissue, tied with catgut. With normal digestion the catgut is speedily dissolved and the stain passes into the urine or saliva. In over 70 per cent. of the cases the reaction paralleled the findings in the stomach content, removed with a tube; in only 6 per cent. were the findings contradictory and these might be ex plained by defective technic. The test realizes in practice he declares, all that Sahli claims for it. It is a reliabl means for determining the conditions in the stomach i regard to digestion and differentiating malignant from non malignant disturbances. It is important to make the desmoid bag one's self, and fresh each time, the little bags not keeping well; another point is to test their weight, as they must be heavy enough to sink to the bottom of a basin o water and not permit any of the stain to diffuse before the catgut is loosened. (It has been suggested that an ether pearl might be used in the little bag instead of a stain, the patient perceiving at once by the eructation when the ethe escapes from the bag.)

138. **Suppository for Inflamed Rectum.**—Unna commends the use of large suppositories of cocoa butter, fully 8 cm. long by 1 or 2 cm. wide, medicated or not. They lubricate the feces and permit painless and non-irritating defecation in proctitis. The addition of a little cholic acid is said to stimulate peristalsis.

141. **Heat in Treatment of Erysipelas.**—Ritter's views were recently summarized in these columns, page 176. He commends a hot flat-iron as a convenient means of applying heat to erysipelatous patches, especially on the face, repeating the application for ten or fifteen minutes three times a day. He found mention of this method of treatment in a letter to Mme. de Sévigné dated 1694, it having been applied for an acute rheumatic shoulder trouble.

142. **Intermittent Limp.**—Muskat says that the disturbance known by this name is not limping—no attempt is made to walk while the attack lasts—and he adds another to the already long list of descriptive terms that have been proposed for it. In differentiating the condition it is important to exclude disturbances due to flat-foot, sciatica and articular rheumatism, and also the angiospasm liable to accompany flatfoot. Ortner has observed similar angiospasms in the intestines which he ascribed to abuse of tobacco, as excessive smoking brought on the spasms and abstention from tobacco abolished them, while they recurred on resumption of tobacco. Nicotin seems to act on the vasomotors and it may lead to pathologic changes in the arteries, especially the changes which entail intermittent limp. The Roentgen rays may reveal calcification of the arteries with the loss of the pulse in the foot, but even in these cases much benefit may be derived from light massage, the iodids, warm baths, the high frequency current and four-celled electric baths, with scrupulous avoidance of further injurious influences, nicotin, alcohol, worry, mental or physical overexertion, chilling, etc. These measures may arrest the process and ward off impending gangrene and a cure may follow unless the calcification of the arteries has progressed too far. The changes in the artery generally begin at the toes and work upward. Payr has reported a case in which gangrene was averted by implanting the femoral artery in the femoral vein.

145. **Prevention of Constipation in the Young.**—Budberg writes from China to call attention to the constant absence of constipation among the children in the Orient. He ascribes this to the regular habits in respect to defecation impressed on the children from birth. When it wakes in the morning even the new-born infant is trained to defecate at once. The mother takes the rump of the infant between her hands and holds the child up, its back toward her, pressing its thighs against its abdomen while her thumbs push on its back or she presses its back against her knee or breast. This position impels the infant to strain, and the mother talks soothingly to it to facilitate its yielding to this impulse. In China and Japan, consequently, he says, the infant of even two months keeps clean and dry while all the ills of constipation in infants and children are thus averted by these regular habits.

Wiener klinische Wochenschrift, Vienna

June 9, XXIII, No. 23, pp. 839-880

146 *Coagulation of the Blood from the Biochemical and Clinical Standpoint. (Die Blutgerinnung in ihren biochemischen und klinischen Beziehungen.) H. Weiss.
147 Period of Incubation. II. (Ueber Inkubationszeit.) F. Hamburger and O. Schey.

148 Putrefaction of Vegetable Albumin. (Studien über Darmfäulnis. IV.) A. Rodella.
149 Relations Between the Transformation of the Mineral and Organic Elements of the Food. (Beziehungen zwischen dem Umsatz mineralischer und organischer Nahrungsstoffe.) E. Biernacki.
150 An All-Metal Pocket Tonometer. (Ein Blutdruckapparat für die Praxis.) A. Selig.

146. Coagulation of the Blood from the Biochemical and Clinical Standpoint.—Weiss reports extensive and systematic study of the coagulating power of the blood in adults and children, using a Wright pipette. In 54 healthy adults the blood coagulated between 2 minutes and 15 seconds and 2 minutes and 40 seconds; in 58 healthy new-born infants, in the breast-fed it coagulated in from 2½ to 3½ minutes, while in the artificially fed children it coagulated in from 1½ to 2½ minutes—this difference he ascribes to the larger proportion of lime in the food of the artificially fed. In 28 cases of acne or furunculosis the coagulating time was unusually long, as also in scorbutus and eczema. These findings suggest that these skin diseases are the result of disturbed metabolism of mineral salts. The coagulating time was also unusually long in the spasmophilic diathesis, epilepsy, chorea, eclampsia, chlorosis, severe anemia, leukemia and tetany; also in 3 cases of acromegaly, several of goiter and 2 cretins and in acute nephritis. The coagulating time was very brief in jaundice and cancer. He discusses these findings from various points of view, especially the beneficial action of lime to promote coagulation, preferring the lactate, as this is exceptionally soluble. Its action is evident in 45 minutes and lasts for weeks, but the dose must not be too large—2 or 3 gm. (30 to 45 grains) a day in an adult for five or six days and half this amount for children. The result is much more certain than that from injection of serum or gelatin. To retard coagulation, as in thrombosis, he advises 5 or 6 gm. citric acid a day for three days, but the action is slower in manifesting itself and it persists only for a few days; but it may retard coagulation from 1 to 3 minutes.

Zentralblatt für Chirurgie, Leipsic

June 18, XXXVII, No. 25, pp. 849-880

151 *Surgical Sterilization of the Skin. (Zur Vereinfachung der Hautdesinfektion.) O. Lanz.
152 *Isolated Atrophy of Muscle as a Diagnostic Symptom for Localization of Tuberculous Foci in Bone. P. Niehans.

151. Surgical Sterilization of the Skin.—Lanz regards the tincture of iodin method of sterilization as valuable under certain circumstances, as in war, etc., but not for routine surgical sterilization. He is convinced that the surgeon's hand is the main source of trouble. As the French say, "Cherchez la femme" in all difficulties, so he says, "Cherchez la main."

152. Atrophy of Muscle Above as Sign of Tuberculous Focus in Bone.—Niehans has been studying for ten years the condition of the muscles in connection with bone foci, and has frequently found distinct atrophy of the muscle or group of muscles inserted in the diseased bone *or having* its origin near the focus. This may often clear up the diagnosis.

Zentralblatt für Gynäkologie, Leipsic

June 18, XXXIV, No. 25, pp. 833-864

153 *Experiences with Intravenous Ether General Anesthesia. (Versuche mit intravenöser Narkose.) H. Schlimpert.
154 Allowing Parturients to Get Up Early. (Das Frühaufstehen Wöchnerinnen.) D. von Velits.

153. Intravenous General Anesthesia.—Schlimpert gives the details of six cases in which was applied Burkhardt's technic for general anesthesia by injection of a 5 per cent. solution of ether into a vein. The conclusions are decidedly against this method of anesthesia, principally on account of the frequency of thrombus formation at the point of injection, the increased blood pressure, the difficulty of keeping the concentration of the ether at the desired point on account of its rapid evaporation, and the necessity for incising the vein. The anesthesia was imperfect *or the* procedure was interrupted on account of a thrombus in all but one of the cases.

Zentralblatt für innere Medizin, Leipsic

June 18, XXXI, No. 25, pp. 625-648

155 Digestive Leukocytosis in Laboratory Animals. (Leukocytose im Tierexperiment.) C. Klieneberger and W. Carl. Commenced in No. 24.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 14, XXXI, No. 71, pp. 753-760

156 Hernia in the Persisting Canal of Nuck. O. Ortali.

June 19, No. 73, pp. 769-784

157 Fetal Monstrosities and Vitality from the Medicolegal Standpoint. (Mostruosita fetali e vitalita.) E. Di Mattei.

June 21, No. 74, pp. 785-792

158 Experimental Research on the Functioning of the Vagus. (Ricerche sul vago.) A. Berti.

Policlinico, Rome

June 19, XVII, No. 25, pp. 771-802

159 Modern Prophylaxis of Typhoid. T. Pontano.
160 *Cause and Transmission of Pellagra. L. W. Sambon.
161 Hemorrhagic Nephritis as an Inflammatory Process Secondary to Acute Infections and Subsiding with Them. E. Magni.

160. Minute Sand-Fly Responsible for Transmission of Pellagra.—Sambon gives the reasons which have convinced him that pellagra is of parasitic origin and that the parasite is transmitted by a minute biting midge, a *Simulium*, as mentioned in a news item in THE JOURNAL recently. His study of pellagra in Italy in 1900 established to his satisfaction that the cause must be sought elsewhere than in corn, and his research in London last winter confirmed the possibility of transmission of the disease by the *Simulium*, and his investigations now being conducted in Italy have, he declares, definitely established it as a reality. Pellagra follows water courses, and only persons much in the open are attacked. The midge in question breeds in water and does not seek to enter houses. The disease is not contagious, and its peculiar incidence in families is due to the fact that those infected elsewhere return home later and are the only ones affected. When all the members of the family are exposed to the bites of the *Simulium* they are all liable to contract the disease. He has encountered entire families in which all the members from the babe in arms upward were affected. In one family near Padua there were five children between 3 and 12 presenting the skin manifestations in the most pronounced form. The manifest connection with breeding places and habitats for the sand-flies, the exemption of inhabited centers, the season in which the disease appears and the prevalence of the *Simulium* in all the localities examined where pellagra is endemic, are only part of the evidence incriminating these midges. (Sambon has now returned to England; among his companions in the pellagra commission in Italy for part of the time were three Americans, Captain Tiler and Drs. Lavinder and Blue, of the P. H. and M.-H. S.)

Riforma Medica, Naples

May 30, XXVI, No. 22, pp. 589-616

162 Oriental Sore. (Nuovi esempi clinici di bottone d'Oriente.) U. Gabbi and F. Lacava.
163 Diagnostic Significance of Isohemolysins in the Blood with Cancer. (Sul valore del repertoe di isolisine nel siero di sangue per la diagnosi dei tumori maligni.) B. Agazzi.
164 Pseudo-Pleurisy. (La sindrome pseudo-pleuritica da abbondante versamento pericardico.) A. M. L. Martelli.

Norsk Magazin for Lægevidenskaben, Christiania

June, LXXI, No. 6, pp. 569-656

165 *Chronic Nicotin Poisoning. (Kronisk nikotinforgiftning. Skraatobak.) A. Tanberg.
166 Recent Achievements in Study of the History of Medicine. (Hovedpunkter i den senere tids medicinsk-historiske forskning.) F. Grøn.
167 *Action of Alcohol on Powers of Perception and Memory. (Om virkningen af 15-30 cm³ koncentreret spiritus paa erindringsevnen.) R. Vogt.

165. Chronic Nicotin Poisoning.—The symptoms in the case described suggested beriberi, as no other cause could be found for the disturbances noted during the last six years, but the patient had never been where beriberi was *endemic*. There were no indications of syphilis or alcoholism and the patient smoked merely one or two cigars *a day*. The digestive, sensory and motor disturbances, tachycardia, arrhythmia and insomnia persisted unmodified by staying in bed, but the casual discovery of a plug of chewing tobacco gave the clue to the diagnosis. It seems that the man had been in the habit of chewing about 40 gm. of plug tobacco daily. Complete suspension of tobacco soon banished *all the* symptoms, but they returned promptly a few months later when he tried to resume the habit. No other treatment for the chronic nicotin poisoning was needed beyond the mere abrupt suspension of the tobacco. In a case reported by Kjellberg there were serious psychic symptoms, and he found it necessary to taper off the tobacco instead of abruptly suspending its use.

167. **Influence of Alcohol on Powers of Perception and Memory.**—Vogt tabulates the results of tests on himself through a number of months to determine the *influence of a* small amount of liquor on the power of concentrating the attention on and remembering 25 lines of a translation of the Odyssey, the blank verse being especially adapted for such tests. The alcohol had an unmistakable influence in reducing the powers of perception, and this effect was twice as marked on a fasting stomach.

Ugeskrift for Læger, Copenhagen

May 26, LXXII, No. 21, pp. 601-634

168 Successful Operation for Ileus in Pregnant Woman Nearly at Term. (Ileus i Svangerskabet.) L. Meyer.
169 General Principles for Treatment of Obesity. (Afmagringskure.) E. Faber. Commenced in No. 20.

June 2, No. 22, pp. 635-660.

170 "Isolation" and "Separation" in Treatment of the Insane. F. Hallarger.

Upsala Läkareförenings Förhandlingar

XV, Nos. 4-5, pp. 211-364. Last indexed May 14, p. 1660

171 *The Sensory Tracts in the Spinal Cord, Studied Especially after Stabwounds. (Ueber die Bahnen der Sensibilität im Rückenmarke, besonders *nach den Fällen von Stichverletzung studiert.*) K. Petren.
172 *Two Cases of Tumor in the Heart. (Bidrag till kännedomen om hjärttumorernas patologi och symtomatologi.) L. Ehrenberg.
173 *Neurasthenia in College Students and its Prognosis. (Om studie-neurastenicns prognos.) R. Friberger.
174 Surgery of the Kidneys Among the Ancients. (En blick i njurkirurgiens äldre historia.) G. Ekehorn.

171. **Sensory Tracts in the Spinal Cord.**—Petren has been studying the paths for the conveyance of sensory impulses by their partial exclusion after stab wounds of the spinal cord. The details of 93 such cases from the literature and his own experience are tabulated. The comparative study of this material confirms his previous assertions in regard to the anatomy and physiology of sensory conduction.

172. **Two Cases of Tumor in the Heart.**—Ehrenberg's first patient was a factory hand about 49 years old with a sarcoma in the heart and contiguous veins. He has found 17 cases on record of a sarcoma in the heart. The right heart was the seat of the sarcoma in all but 3 of these cases. Compression or obliteration of the superior vena cava induced the predominant symptoms in most of them. In Ehrenberg's second case there was a large metastatic cancer in the right ventricle in a woman of 58; the compression of the conus arteriosus induced a systolic blowing sound at the pulmonary artery. The tricuspid stenosis which is generally associated with a tumor growth in the heart, may render the pulse extremely small or even inaudible. In a recent case of embolism in the pulmonary artery the pulse ceased to be palpable after development of the embolic thrombus, and persisted imperceptible for six hours till death. The condition in this case is thus comparable to that with a tumor in the heart, having induced tricuspid stenosis.

173. **Neurasthenia from Over-Study.**—Friberger has encountered 40 cases of neurasthenia in students, the nervous symptoms interfering with their further studies although with no impairment of will power. The clinical course and after-history are compared. All but 3 of the patients were men and they were nearly evenly divided among the various departments of the university; 11 were medical students. The essential feature of the syndrome is the lack of power of concentrating the mind. Sometimes this lack was continuous, in other cases only for a few hours each day. Abnormal sensations in the head are common, a sensation of pressure or tension in the back of the head and neck, not painful, but diverting the attention from the studies. The sensation of pressure may merge into paresthesias of various kinds. These sensations in the head and neck were frequently accompanied by muscular exhaustion, restlessness and insomnia and a sense of dread; palpitations of the heart were observed in 16 cases. Treatment was by general hygiene, hydrotherapy and change of scene combined with regulation of mental effort, directing the patients to study only 45 minutes or an hour at a time, resting for similar intervals. In health less work is accomplished by such interruptions, but neurasthenics attack their work with fresh courage and energy after the rests. Alcohol and venereal excesses could only exceptionally be incriminated in the etiology, but an inherited taint was discovered in from 41 to 73 per cent. in the various groups. The disturbances lasted on an average 8 to 13 months, but in some cases from 4 to 9 years and in a few rare cases with marked heredity and nervous childhood the condition seems to be chronic. Friberger does not know of any similar study of the heredity and outcome of neurasthenia brought on by over-study.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

STUDIES ON LEPROSY. VII. A Statistical Study of an Endemic Focus of Leprosy. By Walter R. Brinckerhoff, M.D., Assistant Director, and A. C. Reinecke, *Technical Assistant*, Leprosy Investigation Station, Public Health and Marine-Hospital Service. A Palliative Treatment for Leprous Rhinitis. By James T. Wayson, M.D., Member of the Board of Health of the Territory of Hawaii, and A. C. Reinecke, Technical Assistant, *Leprosy Investigation Station*, Public Health and Marine-Hospital Service. Public Health Bulletin No. 33, U. S. P. H. and M.-H. S. Paper. Pp. 25. Washington: [Superintendent of Documents] Government Printing Office, 1910.

SERUMS, VACCINES AND TOXINS IN TREATMENT AND DIAGNOSIS. By W. Cecil Bosanquet, M.D., Assistant Physician to the Charing Cross Hospital and to the Hospital for Consumption and Diseases of the Chest, Brompton, and John W. H. Eyre, M.D., Bacteriologist *to Guy's Hospital and* in Charge of the Vaccine Department. Second Edition. Cloth. Price, $2 net. Pp. 362, with illustrations. New York: Funk and Wagnalls Co., 1910.

HYGIENE AND PUBLIC HEALTH. By B. Arthur Whitelegge, M.D., late County Medical Officer of Health for the West Riding of Yorkshire, and George Newman, M.D., Lecturer on Public Health at St. Bartholomew's Hospital (University of London). Cloth. Price, $1.75 net. Pp. 650, with illustrations. New York: Funk and Wagnalls Co., 1910.

A MANUAL OF OPERATIVE SURGERY. By Sir Frederick Treves, Bart. F.R.C.S., Serjeant-Surgeon to H.M. the King, and Jonathan Hutchinson, F.R.C.S., Surgeon to and Lecturer on Surgery at the London Hospital. Third Edition. In Two Volumes. Vol. II. Cloth. Price, $13. Pp. 821, with 495 illustrations. Philadelphia: Lea & Febiger, 1910.

FIRST PRINCIPLES OF AGRICULTURE. By Emmet S. Goff, Late Professor of Horticulture, University of Wisconsin, and D. D. Mayne, Principal, School of Agriculture, St. Anthony Park, Minn. Introduction by Ex-Governor W. D. Hoard. Cloth. Price, 80 cents. Pp. 262, with illustrations. Chicago: American Book Co., 1910.

GENERAL OBSERVATIONS ON THE BIONOMICS OF THE RODENT AND HUMAN FLEAS. By Maurice B. Mitzmain, M.S., Assistant, Plague Laboratory, U. S. P. H. and M.-H. Service. Public Health Bulletin No. 38. U. S. P. H. and M.-H. S. Paper. Pp. 34. Washington: [Superintendent of Documents] Government Printing Office, 1910.

DISEASES OF THE HEART AND AORTA. By Arthur D. Hirschfelder, M.D., Associate in Medicine, Johns Hopkins University. With an Introductory Note by Lewellys F. Barker, M.D., *Professor of Medicine*, Johns Hopkins University. Cloth. Price, $6. Pp. 632, with 329 illustrations. Philadelphia: J. B. Lippincott Co. (1910).

LEHRBUCH DER OHRENHEILKUNDE. Von Dr. Victor Urbantschitsch, O.O. Professor der Ohrenheilkunde an der Wiener Universität und Vorstand der K. K. Universitätsklinik für Ohrenkranke. Fifth Edition. Paper. Price, 18 marks. Pp. 623, with 156 illustrations. Vienna: Urban & Schwarzenberg, 1910.

THE RELATION OF CLIMATE TO THE TREATMENT OF PULMONARY TUBERCULOSIS. By F. C. Smith, Passed Assistant Surgeon. Public Health Bulletin No. 35, U. S. P. H. and M.-H. Service. Prepared by Direction of the Surgeon-General. Paper. Pp. 17. Washington: Government Printing Office, 1910.

TUBERCULOSIS, ITS NATURE AND PREVENTION. By F. C. Smith, Passed Assistant Surgeon. Public Health Bulletin No. 36, U. S. P. H. and M.-H. Service. Prepared by Direction of the Surgeon-General. Paper. Pp. 12, with illustrations. Washington: Government Printing Office, 1910.

FORTY-SECOND ANNUAL REPORT OF THE SECRETARY OF STATE ON THE REGISTRATION OF BIRTHS AND DEATHS, MARRIAGES AND DIVORCES IN MICHIGAN. For the Year 1908. Frederick C. Martindale, Secretary of State. By Authority. Cloth. Pp. 176. 1910.

THE BLEACHING OF FLOUR AND THE EFFECT OF NITRITES ON CERTAIN MEDICINAL SUBSTANCES. By Worth Hale. Hygienic Laboratory Bulletin No. 68, June, 1910. Paper. Pp. 44. Washington: [Superintendent of Documents] Government Printing Office, 1910.

STUDIES ON ANAPHYLAXIS. With Special Reference to the Antibodies Concerned. By John F. Anderson and W. H. Frost. Hygienic Laboratory Bulletin No. 64, June, 1910. U. S. P. H. and M.-H. S. Paper. Pp. 56. Washington: [Superintendent of Documents] Government Printing Office, 1910.

ERGEBNISSE DER CHIRURGIE UND ORTHOPÄDIE. Herausgegeben von Erwin Payr, Greifswald, und Hermann Küttner, Breslau. Erster Band. Paper. Price, 20 marks. Pp. 526, with 152 illustrations. Berlin: Julius Springer, 1910.

HANDBUCH DER NEUROLOGIE. Herausgegeben von M. Lewandowsky. Vol. I, Allgemeine Neurologie. Paper. Parts I and II. Price, 68 marks. Pp. 2015, with 334 illustrations. Berlin: Julius Springer, 1910.

TRANSACTIONS OF THE FLORIDA MEDICAL ASSOCIATION FOR THE YEAR 1910. Held at Jacksonville, Florida, April 6, 7, 8, 1910. Paper. Pp. 204.

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TREATMENT OF LOCALIZED APPENDICULAR ABSCESS

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No attempt shall be made in this brief paper to consider the treatment of appendicitis in detail. The time-worn and hackneyed questions of "When should we operate?" and "When should we delay operation?" will be scrupulously avoided, as will many other phases of this familiar subject. It is my intention to confine these few remarks to a consideration of the question, "Should or should we not remove the appendix in practically every case of localized appendicular abscess?"

In perusing the literature on this question, or in attendance at the various surgical clinics throughout the country, we find as probably the most frequently employed plan, the removal of the appendix when it presents itself freely within the confines of the abscess, while in those cases in which it is adherent and buried by the intestinal coils, the operation is limited to simple incision and drainage, leaving the appendix to be removed at some future time. The reason given for the latter course is usually that it is unsafe to separate the adhesions forming the boundary of the abscess, thereby liberating, during the search for the appendix, pus and septic material into the uncontaminated areas of the peritoneum.

This was the course usually employed by me until some two years ago. During the past two years I have operated in one hundred and sixty-one cases of appendicular abscess, sharply localized. This list does not include any case where at operation the general peritoneal cavity was found to be infected. In this series of cases the appendix was removed in every instance at the first operation, whether it could be easily detected within the abscess cavity, or whether deeply buried by adhesions. In these one hundred and sixty-one cases there occurred two deaths, or a mortality of 1.4 per cent. One patient, a little girl aged 4, died thirty-six hours after operation, and the other, a man aged 49, died sixteen days after operation from cardiac thrombosis. These results are infinitely better than those secured by me under the former plan of treatment in which the appendix was allowed to remain undisturbed in a large number of cases.

Since the adoption of the Fowler position and drainage of the peritoneal cavity by means of a large rubber tube inserted to the bottom of the recto-vesical pouch, or cul-de-sac, supplemented by Murphy's saline proctoclysis, peritonitis has been shorn of its terrors.

It was noticed in those cases of diffuse septic peritonitis due to perforation of the appendix which were treated in this manner, that convalescence was almost uniformly rapid and smooth and without distressing sequelæ. In fact, it soon became a matter of common observation that those patients whose appendices had been removed and the above method of drainage employed, recovered more rapidly and more frequently than those with localized abscess, which had been merely opened and drained. If, then, we are no longer afraid of diffuse septic peritonitis, why should we hesitate to remove the appendix in all cases? Such considerations later led to the gradual adoption of the plan of systematic removal of the appendix in abscess cases.

As experience in the treatment of these cases increased and the appendix was removed with increasing frequency at the first operation, it was noticed that during the search for and removal of the same, small pus collections were frequently encountered here and there among the adherent coils of intestine and omentum whose presence had not been suspected, and which would have been overlooked had not the adhesions been separated. Drainage of the larger pus collection would not have reached these smaller hidden septic foci.

It was also noted that in many cases of peri-appendicular abscess which were tightly walled off, even at times high in the pelvis, separation of the adhesions would reveal a large amount of pus or purulent serum in the recto-vesical pouch or cul-de-sac, which would most certainly have been otherwise overlooked. Thus were exposed the reasons for many a secondary operation for so-called secondary abscess.

The free separation of adhesions during the removal of the appendix tends greatly to lessen the danger of postoperative obstruction, which does not occur with nearly the same frequency in cases so treated as in those cases which are merely subjected to incision and drainage of the abscess. The separation of adhesions and the establishing of free communication between the region of the cecum and appendix, formerly occupied by the abscess cavity, and the lowermost pelvic peritoneal fold (the recto-vesical pouch in males, the cul-de-sac in females), permits the best possible drainage to be instituted by the placing of a large split rubber tube carrying a wick or iodoform gauze in the lowermost peritoneal pouch and permitting it to emerge through the lower angle of the wound. This does away with the necessity for multiple drains either of tube or gauze and thereby lessens to no small extent the tendency to the formation of post-operative adhesions. Drainage instituted as above described removes the necessity for placing either tube or gauze in contact with the cecum at a point where its vitality has been impaired by the infectious process, and thus is lessened the occurrence of fecal fistulæ, the development of which is frequently encouraged by the ill-advised placing of such drains in contact with an already weakened and diseased cecal wall, with resulting pressure necrosis.

With the patient in Fowler's position, a large rubber tube will drain the lower peritoneal pouch much more rapidly and completely than the region immediately adjacent to the cecum can be so drained, as a tube in the latter position will be more rapidly shut in by limiting adhesions than the former; and through the influence of gravity we secure at once the collection of all septic fluids at the most dependent portion of the peritoneal sac, whence they are rapidly discharged to the surface through the tube before its capacity for drainage has been destroyed by surrounding adhesions.

Because of the rapid free drainage so secured, the tendency to post-operative sepsis manifested by hepatic abscess, pylephlebitis, subphrenic abscess, empyema, etc., is much less marked than in those cases where a leaking appendix is permitted to remain and hourly add its burden of septic and infectious material to a cavity imperfectly drained, because slowly drained, and drained for much too short a time.

The removal of the appendix at a secondary operation is frequently a very difficult operation because of the density of the surrounding adhesions and in the majority of instances it will be found much easier to remove it at the first operation and this should now be done rather than subject the patient to a prolonged and often serious second operation.

A few words as to the technic of the operation. The incision is invariably made through the right rectus muscle, splitting the fibers, and the peritoneal cavity freely opened. A small gauze pack is tucked into the upper angle of the wound and so adjusted as to prevent any extravasation of pus toward the liver or diaphragm. Another small pack is tucked in towards the median line from the upper angle of the wound to the lower pelvis to prevent any extravasation towards the left. The abscess cavity is then freely opened with the fingers, unless opened by the peritoneal incision, and the pus rapidly mopped up with gauze sponges. The appendix is then exposed and removed. All adhesions separating the abscess cavity from the lower pelvis are now freely separated and the pus or sero-pus, which is usually found in the lower peritoneal pouch, is rapidly mopped up with sponges. A large split rubber tube, from one-half inch to one inch in diameter and carrying a wick of iodoform gauze, is inserted through the lower angle of the wound to the bottom of the rectovesical pouch or cul-de-sac, the protecting gauze removed and the wound closed down to the tube with interrupted, through and through, silkworm sutures. Attention is called to the large size of the tube, as I believe the first few hours of drainage are those which count. I had these tubes made to order in 1902 and have employed them ever since for peritoneal drainage.

The one hundred sixty-one cases mentioned above represent but a small portion of peri-appendicular abscesses which have been so treated, as I have been working up to this point for years by gradually increasing the indications for the removal of the appendix in these cases, and they are reported merely because they represent an unbroken series of cases which have been so managed. Since 1902, many cases of diffuse septic peritonitis have been treated by the same form of drainage and increasing experience with its value when so employed seemed to justify the belief that peri-appendicular adhesions may be separated not only with impunity, but under proper precautions, even with benefit.

This method is not advocated for the occasional operator, nor is the claim advanced that it should be invariably employed by men of great experience. However, it is urged that it should be much more frequently employed by competent surgeons than is now the custom, and I believe that the instances in which it is contraindicated should be very rare indeed.

AMYOTONIA CONGENITA

THE REPORT OF A CASE WITH MUSCLE BIOPSY *

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There are two excuses for presenting a paper on amyotonia congenita before this important scientific assemblage: first, the fact that this contains the earliest reported case in the United States in which a biopsy had been performed and a microscopic examination made of the excised muscle; and, second, the paucity of cases that have appeared in the American literature. There is very little material on this subject in the text-books; and the statement holds true for special works on neurology as well as pediatrics.

As yet we can not give the malady a distinctive pathologic description, one which will distinguish it from the myopathies, although I do believe that it is entitled to be classed as a distinct disease. It is a rare neurological condition, but has no doubt presented itself in the past to clinicians, to be placed in the category of one of the muscular dystrophies, polyneuritis or some other disease with palsies.

HISTORY

H. Oppenheim[1] in Berlin was the first to call attention to this group of cases in 1900. He had seen up to that time several patients whose symptoms were noticed first during the earliest few months of life up to the second year, and he could find nothing in the literature covering this complex of symptoms. The diagnostic symptoms given by Oppenheim are hypotonia or atonia, much diminution of active movements, to an almost complete palsy, especially of the extremities, more frequently involving the legs in a greater degree, with no or little apparent loss of volume, a peculiar relaxation and soft feel of the muscles on palpation, marked decrease or abolition of the tendon-reflexes, a decided quantitative reduction of electrical excitability but never a reaction of degeneration. Sphincters, sensation, special senses and intelligence never showed any disturbance. The disease is confined to the skeletal muscles. The diaphragm was not involved. It appears to be a congenital trouble though in some instances it is not observed until many months after birth.

Oppenheim[2] in 1904 again reports briefly the history of a new case designated this time as "Myotonic congenita." Since that time several cases have been reported by his pupils[3] and other German workers.

The Italian literature[4] contains some early reports of cases. Some valuable additions have been made as a result of case reports and investigative work by French neurologists and pediatrists. The contributions from the English scientists are noteworthy. Especially may be mentioned the cases reported by J. S. Collier.[5]

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session held at St. Louis, June, 1910.

[1] Oppenheim: Ueber allgemeine und lokalizierte Atonie de Musculatur (Myatonie) in frühen Kindesalter, Monatschr. Psychiat. u. Neurol., 1900, viii, 232.

[2] Oppenheim: Ueber ein Fall Myatonie congenita, Berl. klin Wchnschr., 1904, p. 255.

[3] Vierordt: Deutsch. Ztschr. f. Nervenh., 1900, xviii; Kundt: Thesis, Leipsic, 1905; Rosenberg: Deutsch. Ztschr. f. Nervenh. 1906, p. 130; Heberman: Am. Jour. Med. Sc., March, 1910.

[4] Muggi: Pediatria, 1903, p. 179; Berti: Contribuzione all atonia muscolare congenita di Oppenheim, read before Soc. Ital di pediat., Bologna, 1905.

[5] Collier: Proc. Roy. Soc. Med., 1907-1908, i, Neurol Sec., p. 60; Collier and Wilson: Brain, May, 1908; see also footnotes 9 and 1

The earliest case reported from America was by Spiller,[6] who had the opportunity of performing the first autopsy. I have reviewed closely the case reported by Orbison[7] in 1909, which was classed by him as amyotonia congenita, but which more probably was some organic disease of the central nervous system which has not been excluded in a differential diagnosis. A diagnostic lumbar puncture and a serum test for syphilis should have been made. During the writing of this paper Griffith's[8] case seen in Philadelphia has come to my knowledge.

Collier[9] has collected, all told, forty cases from the literature. More recently Griffith finds forty-eight. I have been able to find forty-four including my own. There are a few cases reported in which there is some doubt about the diagnosis. I am not so sure but that duplicate reports of a very few cases have gone on record.

NOMENCLATURE

The nomenclature is already overburdened with names though our knowledge of the existence of the disease covers a period of only ten years. The first description appears under the title "General and Localized Atony of the Musculature (Myatonia Congenita) in Early Childhood[1]." Oppenheim's[2] second report comes out under the title of "Myatonia Congenita." The name "amyotonia congenita" first appears in the literature in reports by Collier.[10] A few writers, especially Italians, have used the name "Oppenheim's disease." "Congenital muscular atony," "congenital hypotonia" and "congenital amyoplasia" are other titles that have been employed. Myotonia congenita, or Thomsen's disease, may be confused with myatonia or amyotonia congenita on account of a marked similarity in names, but the two are widely different neurologic diseases. A recent text-book on nervous diseases has confused the two terms in its index.

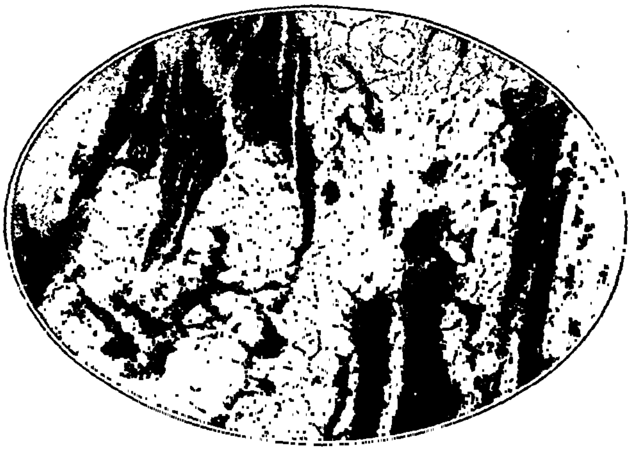

Fig. 1.—Specimen from case of amyotonia congenita. Magnification × 118. Hematoxylin-eosin stain. All remaining muscle fibers atrophic, 8 to 12 microns in diameter. Replacement with fat and connective tissue. Muscle nuclei multiplied several times the normal. The muscle fibers have completely lost their cross-striations.

I favor employing "amyotonia congenita," which is concise and a good clinical representative. More discoveries regarding the pathology and exact etiology may or may not indicate changing the name.

CASE REPORT

The real incentive for presenting this paper to-day is a consultation case that came under my observation recently, a report of which is as follows:

Patient.—Ethel S., female, aged 22 months, was taken on Jan. 6, 1910, to my office by the parents, who reside in the interior of Kansas.

Family History.—The father, whose occupation is that of a carpenter, presents a healthy appearance. He denies any chronic illness, including syphilis. The mother is a plethoric woman and has had no protracted illness. She asserts that she had good health during the intra-uterine life of the patient. She had only one previous pregnancy, which ended in abortion at the end of the second month. Any bad heredity which might have a bearing on the case is denied. The maternal grandmother died from the third apoplectic stroke at the age of 60.

Personal History.—The patient was a nine-months baby and had a normal delivery. The child was nursed by the mother until twenty months old. The feeding of additional food was begun in the sixth month. Teething began at the tenth month. The baby never had any convulsions, could support the head and maintain a sitting posture when six months old. She has never crawled or attempted to walk; began talking at nine months by saying mamma and papa. The child has never cried very much. Control of urination and defecation was acquired at the twelfth month. She has been exceptionally free from acute illnesses, the only one recalled by the parents being an attack of diarrhea, which was mild and ceased in five days. The parents did not perceive the child's malady until the fourteenth month, its inability to use the legs and walk giving the alarm. They consulted a doctor when she was fifteen months old and learned that all the extremities and trunk were involved in the motor weakness. There has never been any tremors. She was treated with 5 grs. of potassium iodid over a period of three months before being seen by me. Electrical treatment had been furnished by a small family faradic battery.

Examination.—The child, when held by a parent or seated, gives a first picture which does not indicate any apparent illness or defect. Nutrition is good. The extremities appear to carry about the normal volume of soft tissues for one of her age. No deformities of the joints or bones are seen. The skin has a healthy, ruddy appearance. There is not the least indication of rickets. The mental development is up to the normal standard. She is attentive, observing and takes an interest in all that is going on about her. Speech and vocabulary are now well developed for her age, and enunciation quite distinct. She has little fear of strangers, is free with her smiles and does not cry readily. The child is attractive, seems unusually good-natured and would excite no suspicion of any retardation of the development of her cerebral functions. Testing each cranial nerve as well as could be done in a child so young, brought forth no evidence of disturbed function, except in the seventh, whose dependent muscles seem to have a trivial weakness, this being particularly observable in an impaired power of expression during changes of mood. All the extrinsic and intrinsic ocular muscles are normal. Hypotonia, one of the fundamental symptoms on which to base a diagnosis of amyotonia congenita, is present in a decided degree in this patient. All the articulations of the upper and lower extremities have excessive joint movements to passive manipulations. Each foot can be placed with ease behind the head and neck. The arms and legs hang flaccid. The mobility of the spinal column in all directions is exaggerated. Motor weakness is evident to a marked degree for all movements of the extremities, the difference between the upper and lower being not great, but possibly slightly greater in the latter. The trunk and neck muscles are comparatively stronger. She experiences no difficulty in holding the head erect or maintaining a straight spine when seated. The muscles for the finer movements of the toes and feet, and especially the fingers and hands, are less affected than the grosser, more proximal groups. The muscles feel soft, flaccid, and there is no appreciable difference between the active and resting states. The atrophy is not apparent to sight on account of the fatty replacement and a generous layer of subcutaneous adipose tissue. The range for all movements remains unimpaired. The weakness of the deltoids is especially marked. Walking is impossible. When nearly all the body weight is supported by a second person, steps can be taken, though with some difficulty. There is no disturbance of coördination. All the deep tendon-reflexes are abolished, including the patellars, Achilles, supinators, biceps and triceps. The epigastric and abdominals are absent. The conjunctival, corneal and pharyngeal are present. There is no plantar response, tested by the Babinski and Oppenheim methods. Many of the muscles failed to respond to a strong electrical current; others of the extremities respond feebly to a strong faradic and galvanic current. None gives the reaction of degeneration. No disturbance of the various forms of sensation is found. All the special senses seem keen. No subjective pains or discomfort to manipulations are found.

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[6] Spiller: Univ. Pennsylvania Med. Bull., January, 1905.
[7] Orbison: Jour. Nerv. and Ment. Dis., April, 1909.
[8] Griffith, J. P. C.: Amyotonia Congenita, THE JOURNAL A. M. A., May 21, 1910, p. 1712.
[9] Collier and Holmes: Brain, November, 1909.
[10] Collier: Brain, 1907, xxx, 146.

Treatment and Course of Disease.—On May 11, 1910, a report was received from Dr. Shonkwiler, the family physician of Burns, Kansas, to whom, after the consultation, the patient was returned for care and treatment. He states, that she seemed to be losing ground for a while after returning home. The helplessness increased as she gained in weight. In February a light attack of pneumonia was contracted, from which a good recovery was made in three weeks. The mother noticed that following this acute illness the baby was able to handle herself much better. The present status is one of considerable improvement in motor power. The mental development continues good. The arsenical treatment, which was not well tolerated, was discontinued early. Regular massage has been given. Strychnin in small doses has been employed. There has been some dieting to prevent too much increase in adipose tissue.

Biopsy.—The patient was taken to the University of Kansas hospital and laboratory, where I removed a small piece of the gastrocnemius muscle under local anesthesia with a .7 per cent. solution of quinin and urea hydrochlorid. A layer of subcutaneous fat 12 mm. thick covered the muscle fascia. A section about 5 mm. square removed from immediately beneath the muscle sheath contained no muscle bundles, all being substituted by fatty tissue. A second deeper section, about 7 mm. square, contained some pale muscle tissue and much fat. The wound bled freely. Unfortunately the piece placed in a Zenker solution for more careful preparation proved to be entirely fat. The other was sectioned immediately with a freezing microtome. Van Gieson, hematoxylin-eosin and Bismarck-brown stains were employed. Muscle bundles can be seen terminating abruptly in a replacing adipose tissue. Some muscle fibers in process of destruction are seen ending in continuity with substituted connective tissue. There is much fatty tissue between the bundles. No hypertrophied fibers can be found. All are quite uniformly atrophied, measuring 8 to 12 microns in diameter. There is a great nuclear proliferation, the sarcolemma nuclei appearing four or five times as numerous as in the normal. The blood-vessels, including the capillaries, have greatly thickened walls, the adventitia showing the greatest amount of increase. The intima is not involved.

DIAGNOSIS

The diagnosis of amyotonia congenita is made in my case without any hesitancy, all the fundamental symptoms being demonstrated. The hypotonia of a severe grade, the marked general skeletal muscular weakness, with soft flaccid muscles, absent deep reflexes, diminution of electrical excitability of muscles, but no reaction of degeneration, no orthopedic deformities, normal mind, normal sensation, no subjective pains, no bad heredity and a general healthy appearance make a strong argument for an undoubted diagnosis. The history regarding a congenital onset is incomplete, but there are a few indications.

In a differential diagnosis several diseases must be eliminated. Poliomyelitis acuta can be excluded by its sudden onset, course, acute febrile period, selection of muscle groups, late trophic disturbances and occasionally musculo-tendinous contractures. Polyneuritis gives pain to pressure and movements, and has a different course and onset. The pseudoparalyses of rickets, scorbutus and Barlow's disease are readily eliminated by their outspoken symptoms, cause and course. In the pseudoparalysis of syphilis we look for other specific symptoms and malnutrition. The Wassermann reaction, or one of its reliable modifications and the diagnostic lumbar puncture should be resorted to where doubt exists. In myasthenia gravis we have a different age, course, electrical findings and bulbar symptoms. Myelitis, hematomyelia and gliosis give afferent tract symptoms. Little's disease with its spasticity is the antithesis of amyotonia congenita. In some cases of imbecility and idiocy there exist much hypotonia and retarded muscular development. The mental defects are evident early, and frequently anatomic stigmata of degeneracy may be found. In cerebellar lesions are found a marked ataxia, normal or slightly increased tendon reflexes and a hypertonia rather than a hypotonia as in amyotonia congenita. The myopathies offer the greatest difficulty in a differential diagnosis. In simple idiopathic muscular atrophy the onset occurs at a different period; there are usually hereditary manifestations, most often similar, a different distribution of the muscular weakness, evident atrophies or pseudohypertrophies, no indication of the condition being congenital and not the same hypotonia of amyotonia congenita.

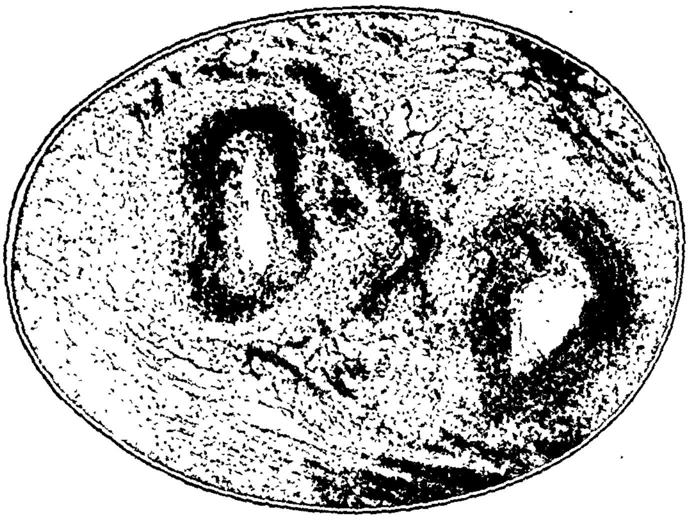

Fig. 2.—Specimen from case of amyotonia congenita. Showing intramuscular blood-vessels with much thickened adventitia and media.

PATHOLOGY

Our knowledge of the pathology is incomplete. The few autopsies and biopsies indicate that the disease is one primarily of the skeletal muscles or of their motor nerve endings. My biopsy shows a great diminution in size of the muscle fibers and marked increase in number of sarcolemma and muscle fiber nuclei. The myoplasm of many of the muscle fibers has undergone a complete degeneration and is replaced with adipose or connective tissue. The blood-vessels show much thickening, especially of the adventitia.

Spiller[6] has reported the first complete autopsy, in which case were found a diminution in size and a hyaloid appearance of the muscle fibers of the calf and back. The transverse striæ were absent. The spinal cord was normal. Smith[11] studied the ductless glands and the hemolymph system in the same case and found the Hassal corpuscles of the thymus gland much increased in size and number. Some of the bodies presented a hyaloid appearance. Oppenheim[12] reflects a doubt about the diagnosis in this case.

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[11] Smith: Univ. Pennsylvania Med. Bull., October, 1905.

Baudouin's[13] excellent post-mortem report shows a slightly arrested development of the anterior horn cells of the spinal cord, spinal roots and peripheral nerves not of an inflammatory nature. He found hypertrophied muscle fibers and many atrophic ones, a sclerosis and a replacement with connective tissue. The blood-vessels were a little thickened. He concluded that it was a regression similar to that found in the myopathies. The thymus gland was sclerosed with a diminished number of Hassal bodies. The thyroid was in a state of hypofunction with an intense sclerosis, little colloid substance remaining.

Collier and Holmes[9] report one autopsy and one biopsy. They found markedly atrophic and hypertrophic skeletal muscle-fibers, replacement of degenerated ones with fat, muscle nuclei multiplied several times the normal and increased connective tissue. The myelin sheaths of the peripheral nerves were poorly developed. The ventral spinal roots contained fewer fibers than are found in the normal. The anterior horn motor cells were diminished in size and number (1/3). Dorsal horns, Clarke's columns and white columns were normal.

Bing's[14] biopsy report with almost negative findings is incomplete.

ETIOLOGY

The etiology is dark. Heredity certainly plays no rôle as a causative factor. The only exception on record is that of Silvestri,[15] where the heredity was dissimilar. The mother learned to walk late, had a slight goiter and osteomalacia during pregnancy. A maternal aunt had a Landouzy-Déjerine progressive muscular atrophy. One brother had a juvenile progressive muscular atrophy with pseudo-hypertrophies. Two brothers had rickets and one myxedema. Theories of disturbance of internal metabolism or the hemopoietic glands have been advanced, but nothing conclusive has been demonstrated.

TREATMENT

For such an essentially chronic disease as amyotonia congenita too few years have lapsed since our recognition of it to lay out any closely defined plan of treatment, and this holds particularly true in view of the undetermined exact etiology. More than 50 per cent. of these cases can be improved, a few being on record where the improvement has been decided. This is one reason for not allowing them to be classed among the myopathies, most of whose forms continue to steadily decline without interruptions. Hygienic, mechanical and medicinal means of therapy may be resorted to.

All these patients are prone to attacks of acute pulmonary infections. In a large percentage of the reported cases the patients have had bronchitis or bronchopneumonia from which the mortality rate has been high. In 16 per cent. of all the known cases the patients have been registered as dying from pneumonia or bronchopneumonia. My patient had an attack of catarrhal pneumonia from which, after the recovery, there was begun a noted immediate improvement in her motor power, possibly due to the loss of some fatty weight. It is not desirous to encourage the addition of much weight dependent on adipose tissue.

Massage properly applied is valuable. It is perhaps proper to caution against kneading the muscles too vigorously or excessively. If electricity is considered, faradism should be used to those muscles which react to the current, and galvanism to those which do not respond to the interrupted form. Cold baths have been employed, but I would favor the hot should hydrotherapy be indicated. Strychnin in small doses over long periods may be beneficial. Phosphoric and arsenical preparations are worthy of a trial.

CONCLUSIONS[16]

My few concluding remarks shall be confined to a discussion concerning the question of amyotonia congenita being admitted as a distinct disease.

The most likely field for argument is that of the myopathies. In a discussion of this point before the neurological section of the Royal Society of Medicine of London in the spring of 1909, Collier made a strong plea for its entity in the list of classified nervous diseases. Batten vigorously opposed this position, maintaining that it should be considered as one of the myopathies. I see no other location for this rare neurological condition excepting among the myopathies if we refuse to allow it to stand by itself.

Bing's[14] case, in which a biopsy was performed, showed little or no muscle changes, which prohibits it from being classified as either amyotonia congenita or a myopathy. The description sounds like that of a mongolian imbecile.

Oppenheim[12] in his most recent text-book on nervous diseases has treated the malady in a curious manner, a short space being devoted to the subject under the differential diagnosis of poliomyelitis acuta.

Unfortunately as yet we cannot turn to the pathologic findings to support the contention for placing this group of cases in a class by themselves. The strong support from clinical findings gives us sufficient encouragement to allow the disease to have a real existence.

402 Argyle Building.

The Hot-Air Douche in Treatment of Skin Diseases.—P. Ravaut commends this method of treatment and relates his favorable experiences with it in a number of cases of nevi, lupus (after a preliminary curetting), tuberculous lesions in the skin, epithelioma, leucoplasia of the internal surface of the cheek, hypertrophic acne of the nose, vulvar pruritus and lichenification, torpid ulcerations and to get rid of tattooing. *With the latter, after giving chloroform, a mild* jet of superheated air was played on the epidermis which was scraped off as it was lifted up from below; the tattooed zone was then curetted, the hot-air douche drying the oozing blood. His communication on the subject is published in the *Annales de Dermatologie*, March, 1910, page 145.

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[12] Oppenheim: Nervenkrankheiten, Ed. 5, Vol. i, Die Poliomyelitis anterior acuta, Differential diagnose, p. 242.

[13] Baudouin: Semaine méd., 1907, p. 241.

[14] Bing: Med. klin., 1907, i, No. 6.

[15] Silvestri: Gaz. d. Osp., 1909, xxx, 577.

[16] Other literature, not referred to elsewhere, is as follows:
Schüller: Wien klin Wchnschr., 1904, p. 722.
Hagenbach-Burckhardt: Jahrb. f. Kinderh., 1904, p. 47.
Tobler: Jahrb. f. Kinderh., 1907, xiv, 33, No. 1.
Ausset: Bull. Soc. de méd. du nord, 1908.
Gastonguay: Bull. méd de Quebec., 1908-1909, x, 97.
Levi-Sirugue: Gaz. d. hôp., 1909, lxxxii, 173.
Coombs: Brit. Med. Jour., June 15, 1907.
Leclerc: Gaz. d. hôp., 1907, lxxx, 1683.
Variot: Bull. Soc. de pédiat. de Paris, 1907, ix, 246.
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Smith: Univ. Pennsylvania Med. Bull., October, 1905.
Sorgente, P.: Due casi di atonia musculare congenita di Oppenheim, Pediat., May, 1906.
Iovane: Pediat., March, 1906, xiv.
Cattaneo. Bull. della clin., 1906, viii.

ACUTE YELLOW ATROPHY OF THE LIVER

A CASE FOLLOWING TWO CHLOROFORM ANESTHESIAS IN QUICK SUCCESSION IN A PREGNANT WOMAN

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All of us who have ever used chloroform as an anesthetic to any extent are familiar with the immediate dangers to the life of the patient during its administration, and there have been recently some good papers dealing with its deleterious effects. There has also been some good experimental work which has given us a good working basis for clinical observation of the cases of delayed chloroform poisoning.

Leonard G. Guthrie, in 1894, was the first to call attention to cases of delayed chloroform poisoning. In that year he reported nine cases in which death occurred within from ten hours to six days after operation performed under chloroform.

The symptoms as observed by Guthrie were, after a period of twelve hours or so, profuse and repeated vomiting, the vomit eventually blood-stained and resembling the dregs of beef-tea; restlessness; excitement and delirium alternating with apathy; jaundice, occasionally, and unconsciousness deeping into coma.

The following case came under our observation in the wards of the Memphis City Hospital last winter, and is, we think, of value as an example of the profound delayed toxic effect of chloroform which may occasionally occur. We think, in the light of the experiments of Whipple and others, and of clinical experience, that many patients who are anesthetized by chloroform, and recover, suffer similar effects, but in a milder degree.

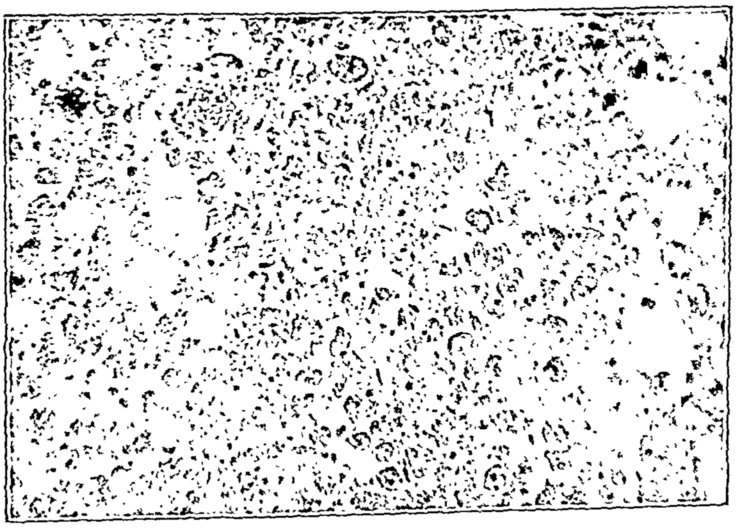

Fig. 1.—*Area of necrosis and partial histolysis.*

REPORT OF CASE

Patient.—A negro woman, aged 18, unmarried, chambermaid, admitted to the City Hospital Feb. 6, 1910, at 10 p. m. Family history and previous personal history negative.

Present Disease.—On February 5 the patient had abdominal cramps and headache with moderate uterine bleeding. These symptoms continued until admission into the hospital. On admission, the patient was bleeding somewhat, and a physical examination showed that she had had an incomplete abortion at the third month. Temperature was 101, pulse 100. The patient denied having used artificial means to produce the abortion. She was of a very low order of mentality, and would allow nothing done without an anesthetic. She was given chloroform and tamponed. The pains continued part of the night, then ceased. The next morning, Feb. 7, 1910, she was again anesthetized with chloroform, the tampon removed and a curettement done. Each anesthesia was of about twenty-five minutes' duration. The pulse and temperature immediately dropped to normal and continued so until the morning of Feb. 9, forty-eight hours after the curettement, when she complained of not feeling well, and during the day developed jaundice, nausea, vomiting, with rapid pulse and delirium; these symptoms gradually increased in severity until February 12, three days after their beginning and five days after the curettement, when the patient had convulsions, followed by coma and death in a few hours. There was a complete suppression of urine, which prevented a urinalysis being made. From these symptoms, with the previous history, the condition was diagnosed on the first day to be acute yellow atrophy of the liver, due to chloroform poisoning with the additional toxemia incident to pregnancy.

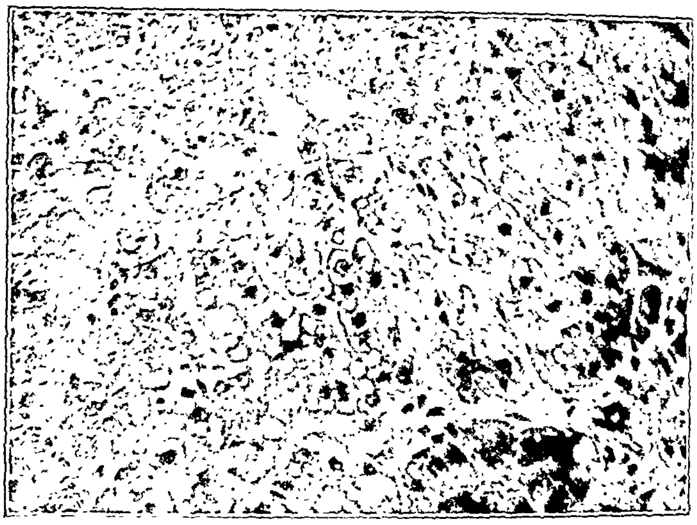

Fig. 2.—Small area adjoining portal space, showing fatty degenerated liver cells in periphery of lobule. Notice great degeneration proceeding towards center.

AUTOPSY

Made twelve hours after death. Body of a fairly well-nourished young negro woman. Rigor mortis present. Frothy exudation with a yellowish tinge seen about the nose and mouth. Sclera, palms of hands and soles of feet deeply jaundiced. Abdomen slightly distended. On section of wall of abdomen, deeper tissues were found bile-stained. Mesentery, omentum and intestines were bile-stained. Liver about two-thirds normal size. Surface smooth and presenting a uniformly yellow-brown color, spotted with areas of hemorrhage varying in size from a split-pea to a 25-cent piece.

Section showed parenchyma of the same appearance as surface. Consistency almost diffluent. No resemblance at all to normal liver tissue. Appearance seemed uniform throughout both lobes.

Gall-bladder about half full of yellowish-green bile. Bile-ducts patent.

Spleen enlarged to about twice normal size. Soft in consistency. Heavier than normal. Dark red in color. Section had the appearance of an acute splenic tumor.

Kidneys increased one-third in size. Soft in consistency. Dark in color, with areas of hemorrhage beneath capsule. Capsule easily stripped. Section showed surface dripping with blood. Cortex swollen to twice normal size. Absence of striations in cortex and medulla. Venules prominent. Pelvis and ureter normal.

Pancreas and pelvic organs apparently normal, except for increase in size of uterus. Bladder empty.

MICROSCOPIC EXAMINATION

The capsule of the liver was normal, save for a moderate infiltration of lymphoid cells.

The larger bile-ducts were almost empty. Epithelial cells lining basement membranes were slightly hypertrophied, and in some places desquamating. The walls of the bile-ducts were seen to be moderately infiltrated with lymphoid cells (Figs. 1 and 2).

The blood-vessels in the portal area and those in the center of the lobules were found empty and of normal size. Most of the lobules were the seat of extensive necrosis which is apparently most pronounced in the center. In some places the protoplasm had entirely disappeared from the cells, and nothing appeared to remain but their shells. The interstitial tissue was not hypertrophied, but, on account of the autolysis of the cells, was distinct.

Away from the center of the lobules the cells still preserved their form, but contained a very indistinct nucleus, and either numerous fine granules or from one to three large fat droplets.

About the portal area there could be seen, in a few places, one or two rows of liver cells that are fairly normal (Fig. 3).

Throughout the section of the liver there could be seen absolutely no effort at regeneration.

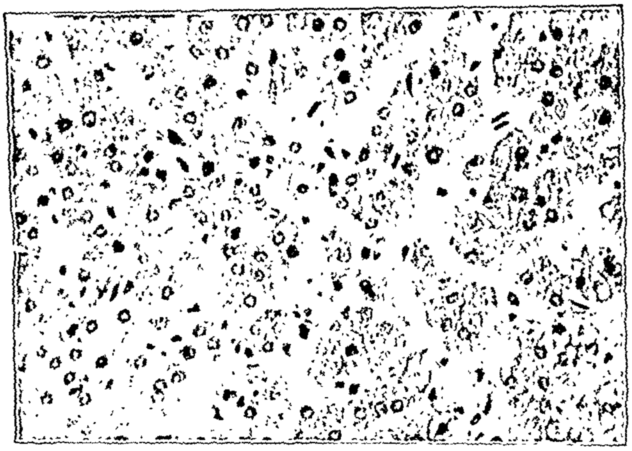

Fig. 3.—Comparatively intact liver tissue.

There is little reason to doubt that the anesthetizing with chloroform was the exciting, if not the entire cause of the extensive degeneration of the liver which presented the appearance of an acute yellow atrophy.

According to Rosenfeld, when the liver cells are poisoned by chloroform their metabolism is so altered that while they can utilize carbohydrates well, they can oxidize proteids but imperfectly, and fats even less well; consequently, as soon as the cells have used up their meager store of carbohydrates, their hungry condition causes a breaking down of tissue proteid and a transference of fat to them; or it may be, as has been suggested by Councilman, that the abnormal presence of fat in the cells represents some combination of fat with proteid.

This case corresponds closely with the majority of cases reported in the literature, and to the appearance of the lesions in the cases of experimental chloroform poisoning given in the report of Whipple. It is remarkable in its very early appearance and the extensive degeneration of the liver.

Lumbar Puncture for Convulsions in Children.—*F. Schiffer* believes that the convulsions may lead to disturbances in the circulation in the brain and meninges which give rise to new convulsions. This vicious circle *may* be broken up by lumbar puncture, and Schiffer relates two cases in which this was done with apparent success in epileptic children. The number and intensity of the seizures seemed *to be materially* reduced by a single lumbar puncture, but in his communication on the subject in the *Klinisch-therapeutische Wochenschrift*, 1910, xvii, 481, he does not claim that this measure will prove invariably successful. He is convinced, however, that the accumulation of seizures is not the work of the primary cause but of the convulsions themselves, and where *this* has occurred, lumbar puncture may give great relief.

A METHOD OF DETERMINING OCULAR DOMINANCE

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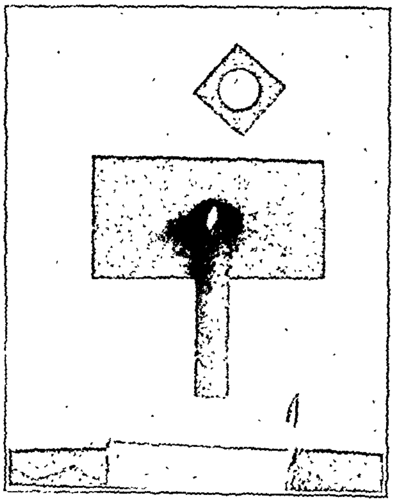
The question of a dominant eye does not seem to be considered of any consequence by the medical profession or even by its ophthalmologists. Probably few, indeed, realize that one eye is chosen unconsciously for the more rapid, accurate, and delicate visual perceptions, just as the dextral hand is chosen by the right-handed for the performance of all the more delicate and expert tasks, especially in learning them. The significance of ocular dominance in its relation to sport has been brought out by a newspaper reporter, and in its relation to right-handedness and left-handedness, by an oculist in a volume so entitled. The value of the determination of the dominant eye in refraction needs further outworking and rating, but a simpler method of making the test than the one to be suggested could scarcely be found.

The idea of ocular dominance is by no means a new one. Ioan Baptista Porta,[1] writing "De Refractione," in 1593, reviews the opinions of "the ancients and moderns" concerning vision with two eyes, and advances his own conclusions from observations. "Nature has bestowed on us eyes in pairs," he says, "one at the right hand and one at the left, so that if we are to see anything at the right hand we make use of the right eye.... whence we always see with one eye, although we think that both are open and that we see with both." This thesis he proved by two "arguments" or experiments: "Between the two eyes let there be placed a partition to divide the one from the other, and let us place a book before the right eye and read. If any *one* shows another book to the left eye it will not only not be *able to read, but it cannot* even see the pages unless in a moment it withdraws the visual virtue from the right eye and changes it to the left." His second argument *is* as *follows*: "If any one places *a staff* before him and brings it directly opposite some crack that exists in the opposite wall, and notes the place, when he closes his left eye he will not see the staff removed from the opposite crack, the reason being that every *one looks* with his right eye as he uses his right hand," etc.



Simple instrument for determining the dominant eye.

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[1] Porta, Ioan. Baptista: *De Refractione optices parte*, Neapoli, apud Io. Iacobum Carlinum et Antonium Pacem, 1593.

Until quite recently this second method has been used in this office to determine ocular dominance.[2] During the fall of 1909 there appeared in a New York paper an article on the "Master Eye," in which the author shows that in the realm of sport the master eye directs and controls the marvelously quick and accurate movements of successful players. To demonstrate beyond doubt the fact of the existence of a "master eye" he directed that a round hole be cut in a piece of cardboard, the disc thus cut out being placed on the floor in front of the person tested. The cardboard is held at arm's length and the disc observed through the hole. Inasmuch as the disc can be seen only with one eye at a time, one will select his "master eye" to see it. The method was so simple, the demonstration so convincing, that modifications and further improvements of the method were immediately devised. The modifications consisted simply in narrowing the field of vision by placing a short tube in the hole of the cardboard, and, second, in increasing the convenience of using the apparatus by adding a handle, blackening the instrument, etc. The instrument we now use is simple, light, home-made, and effective. It is constructed as follows:

> In the center of a piece of black cardboard about a foot long and half as wide is cut a round hole exactly the size of a pasteboard mailing-tube. A piece of the tube about 4 inches long is thrust through the hole. The fit should be snug enough to hold the tube in place, but it is further strengthened by glue applied to the joint on both sides of the cardboard screen.
>
> This is the essential part of the instrument, but for the sake of convenience another piece of the mailing tube about 7 or 8 inches long is used as a handle. In order to fit the handle to the above-described portion of the instrument, slits as wide as the cardboard screen is thick, are cut lengthwise of the handle at opposite ends of a diameter of the tube. Crescent-shaped segments are now cut from the upper end of the handle, with the tips at the upper ends of the slits just mentioned. The handle is slipped into position and glued at every joint. A glance at the accompanying illustration will show the method of construction, as well as the completed instrument. The illustration also shows the white "target" and the dead blackness of every other part of the apparatus.
>
> With the patient sitting or standing squarely before the white disc opposite him on the wall at the level of the eye, the instrument is presented to him and he is instructed to hold it at arm's length so that he can, with both eyes open, see the white spot through the tube. If the patient is right-eyed and the left eye is covered with a piece of black cardboard or blotting-paper, the disc remains in view through the tube; if the right eye is covered he sees only the screen of the instrument. It is, of course, impossible for the patient to see through the hole with both eyes at once, and the great majority of people find that naturally they can get a clear image of the white spot with one eye only.

Whether any means of determining ocular dominance ever comes into general use remains to be seen. It seems, however, with this principle in mind, a competent oculist, with the good of his patient at heart, will not, in prescribing glasses, injure a naturally right-eyed man with left-eyedness, when the proper correction of the error of refraction would preserve right-eyedness. Furthermore, in certain cases, it should be his endeavor to change a left-eyed but right-handed man into a right-eyed man, so that, for example, he would not have to depress his head sufficiently to sight with his left eye in shooting a gun from the right shoulder. Certain it is that a naturally right-eyed and right-handed patient, recently artificially made left-eyed by glasses, will have good reason to bless you for making him right-eyed again with correctly fitted lenses.

For the oculist there arise many problems in reference to his "mixed" cases, or those with "equidominance." Occasionally he will catch one in the very process of becoming "mixed"; that is, by bad glasses, by growth of ametropia, or by switching of the axis of astigmatism in the formerly dominant eye. In such instances there will be a dangerous period of struggle for dominance between the two eyes. One eye must be chosen or the patient may suffer injuries from accident. One of our patients, for example, a physician, who had heretofore driven his own automobile expertly, found himself unexplainably and suddenly running into curbstones and telegraph poles. By reinstating his habitual dominance, which had been reversed by incorrect lenses, he at once gained his previous skill in locating objects, etc. The fact, as was pointed out six years ago, has significance also in cases of inflammatory diseases and operations on one eye.

CRYPTOPHTHALMIA

WITH REPORT OF TWO CASES

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DENVER

In cryptophthalmia we have a total congenital ankyloblepharon and symblepharon, and there is also invariably abnormality of the eyeball and often of the orbit. In addition other abnormalities are generally present, especially syndactylism (Manz, Chiari, Otto); and malformation of the genitalia (Manz, Chiari), meningo-encephalocele (van Duyse), hare-lip (Chiari), cleft palate, facial fissure, malformed concha, atresia of the larynx (Chiari), ventral hernia (Manz), aplasia of the kidneys, etc., have been observed.

The first case of cryptophthalmia was recorded by Zehender and the patient examined anatomically by Manz, 1872. Cases have since been recorded by Hocquart, Chiari, van Duyse (two cases), Fuchs, Otto, Bach and Karmann; seven patients have been examined anatomically. In six cases the abnormality was bilateral, in three unilateral. Consanguinity in the parents has been recorded once only. The cases reported in this paper were both bilateral.

In this condition the skin passes continuously from the brow over the eye to the cheek. In almost every case there is some indication of a palpebral fissure, which appears as a shallow, linear depression, or as a white line of scar tissue. Some authorities state that the eyelashes are always absent, but they were found in both of my cases. There is occasionally a small depression in the situation of the palpebral fissure; in Hocquart's case, folds of skin radiated from it, and in van Duyse's, in a pigeon, it measured 2.5 mm. Eyebrows are usually present, two cases being reported in which they were absent. The eyeball can always be felt under the skin: it shows spontaneous movements, proving the presence of extrinsic muscles. There is evidence that the eye is always responsive to bright light, as shown by wrinkling of the skin: this further proves the presence of the orbicularis. This muscle, the levator palpebræ, and the other extrinsic muscles, have also been demonstrated anatomically. Anatomic investigations show further that the lids are not always absent. Van Duyse and others found remnants of them. Bach alone found

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[2] Gould, G. M.: Right-handedness and Left-handedness. J. B. Lippincott Co., 1908, p. 30.

Meibomian glands and a tarsus in the upper lid. The raphe consisted of scar tissue in Chiari's case, but showed only dense structure, and aggregation of sweat glands in van Duyse's. Traces of the conjunctival sac have been found, but it is usually completely absent. The eyeball is invariably disorganized. In fact, the condition may be so extensive as to justify Wernicke's term, "cicatricial crytophthalmia." "The cornea is converted into vascular scar tissue, often ectatic. The iris is adherent to the cornea, or more or less completely atrophied. The lens may be represented by only a few large vesicular cells behind the cornea or may have disappeared. The ciliary body and chorioid show these changes familiar after severe inflammation, or are absent."[1]

The etiology of these abnormalities offers the usual difficulties. Manz considered that the lids were not formed (ablepharon by agenesis). There can be no doubt that in some cases, as in the two here reported, the lids are partially formed and for some reason become united (ankylosymblepharon by ankylosis). Treacher Collins advances the theory that the condition of the eye is the result of a defective development of the lids and conjunctival sac and that owing to the absence of the lids, the conjunctiva develops into skin.

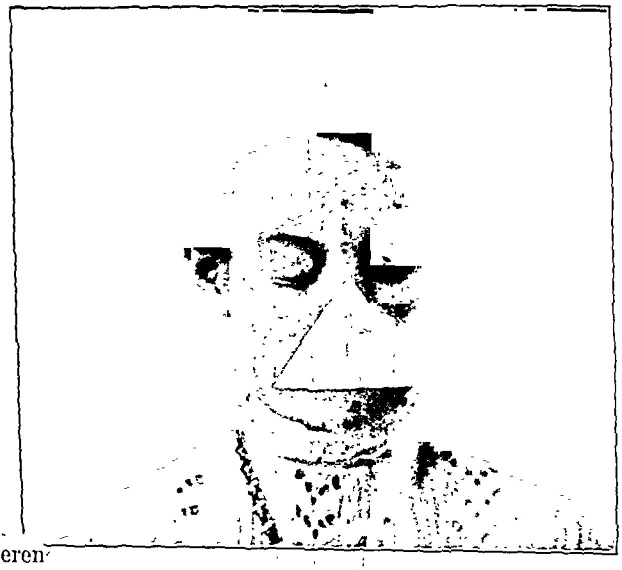

Fig 1.—First patient with cryptophthalmia.

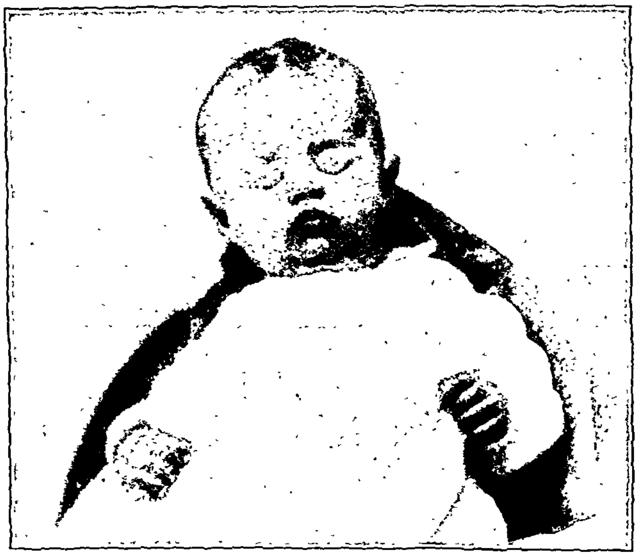

Fig. 2.—Second patient with cryptophthalmia.

Pressure by the amnion is given as a cause by Kundrat and van Duyse, and this is supported by the coincidence of syndactylism, but it is difficult to construct the exact mode of action.

CASE 1.—Mrs. R., aged 24, American, born with the upper and lower lids of both eyes firmly united (ankylosymblepharon by ankylosis), in every other way is a perfectly developed woman. An indication of the palpebral fissure in the form of a shallow depression corresponding to the curvature of the lids appears in each eye. Well-formed eyebrows are present. About midway between the lower margins of the upper lids and the margins of the orbits are two rows of hairs. At these points there are slight depressions in the surface of the lids—a pitting of the skin.

The patient gives a history of light impression at an early age. She could recognize when a bright light was flashed in her face. The patient's mother states that when the patient was 2 years of age, the left eye was opened by a surgeon and an imperfectly developed eyeball was found. Four years later Dr. E. M. Marbourg of Colorado Springs and I opened the lids of the right eye. A small ball was found, which was imbedded in a mass of connective tissue and occupied the nasal side of the orbit. No corneal tissue could be determined macroscopically. Two years after the operation, light perception was lost entirely.

There was no history of consanguinity; nor as far back as could be traced was there a history of any congenital defect.

The patient was educated in a school for the blind and at 22 years of age she married an inmate of a workshop for the blind, who had lost his eyes in a mine explosion about five years ago. Their baby when born was a duplicate of the mother.

CASE 2.—Hazel R., aged 7 months, at birth weighed 8¼ pounds and was in every other way a perfectly formed child. The tissue at the point of union of the lids had somewhat the appearance of scar tissue, but is probably a modified conjunctiva. A few cilia could be seen on the margins of the imperfect lids, more particularly on the lower. There was a partially formed caruncle in each eye. The orbits were slightly narrowed in their vertical diameter, there seeming to be a bulging downward of their superior margins at about the site of the supraorbital foramina. By palpation one could determine the presence in each orbit of a small eyeball, but owing to the apparent thickness of the lids, it was impossible to form any estimate of its size. The right appeared to be the larger.

When a bright light was flashed in the face, there was a reflex movement of the eyelids and a slight wrinkling of the brows. Careful probing along the sites of the palpebral fissures failed to reveal any opening at any point.

The right eye was chosen for operation and an incision was made along the palpebral depression from within outward. There was a complete symblepharon, the upper and lower lids having to be dissected away from what appeared to be a mass of connective tissue. There was considerable hemorrhage. Retracting the lids and inserting the finger, a small eyeball could be felt. Dissecting away the mass of tissue with the handle of a scalpel, an imperfect eyeball was exposed. In drawing it outward and forward with the forceps, a small point was brought into view, which had the appearance of imperfectly developed corneal tissue. The spot was about 2 by 3 mm. and was situated to the nasal side of the globe. No extrinsic eye muscles could be detected macroscopically. By passing a strabismus hook back of the eyeball, the presence of an optic nerve could be determined.

In the dissection, the sclerotic was accidentally snipped by the scissors at one point and some fluid vitreous escaped. There being no possibility of any vision, the lids were closed and the wound dressed.

California Building.

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[1] Parsons: Pathology of the Eye, III, 779.

A BILATERAL HERPES ZOSTER

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AND
R. C. JAMIESON, M.D.
Junior Dermatologist to Harper Hospital
DETROIT

The unusual rarity of recorded cases of bilateral zoster makes them worth reporting; though such cases are scattered throughout the literature, they have been very infrequent when compared with the number of cases of the unilateral variety. The relative proportion will never be known, as the ordinary "shingles" is too common to be reported or recorded, in that a large percentage is seen by the general practitioner or not at all. The grandmother, as in ringworm and boils, often makes the diagnosis, and says that if the lesions do not girdle the patient he will recover; if they girdle or meet he will die. The cases of bilateral zoster reported by observers from different parts of the world are, without doubt, only a small percentage of the number that really occur, as many cases are not reported and probably are not diagnosed properly. While bilateral zoster is generally supposed by older authorities to be of syphilitic origin (yet unproved), no history of spyhilitic infection can be obtained in the present case, nor has the patient a single trace, clinically, of an old syphilis, although one might pre-suppose its existence on account of the patient's occupation, he being a sailor.

REPORT OF CASE

Patient, J. F., aged 47; occupation, sailor. There is nothing of interest or at all suggestive in his family history which would have an influence on the present condition. His mother died at 60 from carcinoma of the stomach, one brother died of alcoholism, and two sisters died in infancy, the cause of death not being known to the patient. There is *no* hemophilia or other hereditary disease in the family. The patient has had pneumonia, typhoid fever, *malaria*, and gonorrhea (twice), but syphilis is denied. When he was 8 years of age his back was injured at the site of the present eruption, but had given him no trouble for years.

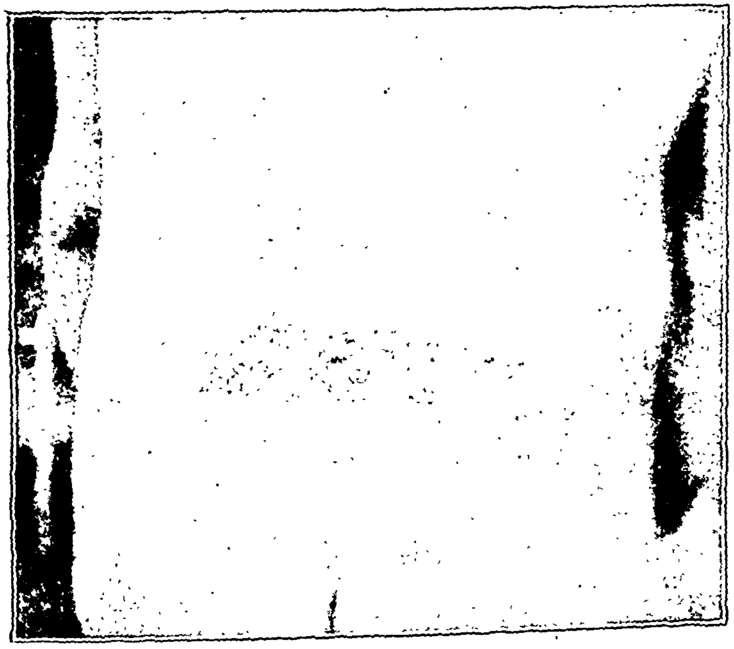

Fig. 1.—Showing bilateral lesions, dorsal aspect.

He came for treatment on account of having red lesions on the right side of the body, which appeared three days before his entrance into the hospital. At that time the lesions were only on the right side and had been *preceded* and accompanied by severe pain in the area affected. Two days after admission lesions began to appear on the left side at the same level as the first lesions. The eruption on the right side began at the twelfth dorsal and first lumbar vertebræ, extended across the back and abdomen to the median line, also downward and inward over the thigh and crural region. On the left side the lesions extended at the same level as far as the mid-axillary line, and a few days after the photograph was taken some lesions developed on the left anterior abdominal wall, which were too extensive to be accounted for by an anomalous distribution of a cutaneous branch.

Since this report was completed, a case has come to notice in which the patient claims to have had a bilateral zoster fourteen years ago, but there are no means of proving his assertion.

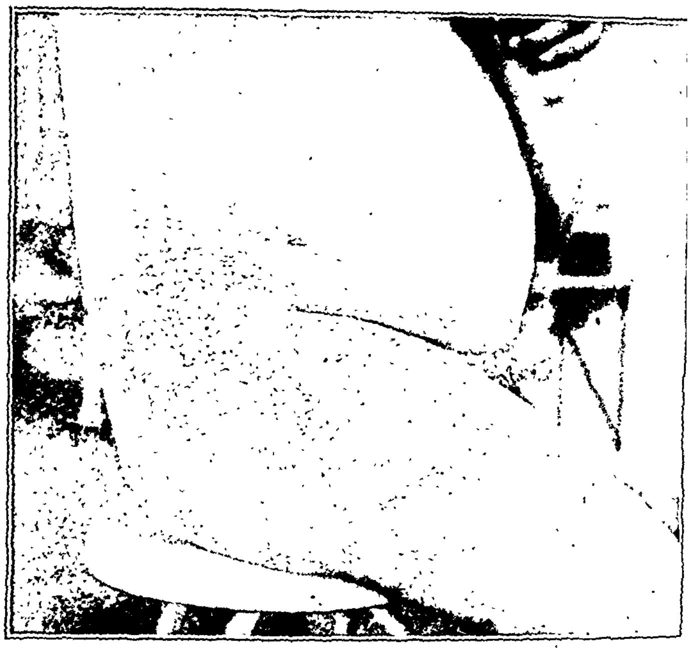

Fig. 2.—Showing lesions distributed over upper portion of thigh.

The accompanying illustrations show the areas affected.

This case was studied and reported through the courtesy of Surgeon R. M. Woodward of the Detroit Marine Hospital.

THE ACTION OF ALCOHOL ON THE NORMAL INTACT UNANESTHETIZED ANIMAL *

CLYDE BROOKS
CHICAGO

INTRODUCTION

Heretofore, on account of the objectionable methods employed, so far as I know no adequate direct observations have been recorded on the action of alcohol on the general blood-pressure of the intact animal. One objectionable feature is that these methods have as a rule involved the employment of a general anesthetic, such as chloroform or ether; and it is not easy to distinguish the normal action of alcohol when administered to an animal already far under the influence of a very closely related drug of the same group. For example, how could one distinguish the normal action of alcohol on the general blood-pressure of an animal when its *vasomotor* reflexes were already greatly depressed by ether or chloroform? One of the means employed to avoid the use of anesthetics is to remove the cerebral hemispheres.[1] But this is a poor makeshift, for an animal with its cerebral hemispheres mutilated is so profoundly altered that it is unfit for physiologic researches on the general blood-pressure.[2] Therefore, in order to obviate the necessity of decerebration, general anesthesia, or other objectionable practice, methods were devised for studying the blood-pressure in the normal (intact) animal by which tracings were obtained practically without pain to the animal and without the need of anesthetics. From a historical point of view it would seem that this should be one of the most natural and almost inevitable steps next to be taken in the development of blood-pressure methods.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, *1910*.

* From Hull Laboratory of Experimental Therapeutics, University of Chicago.

HISTORICAL SKETCH

So far as we know Stephen Hales,[3] the clergyman and scientific experimenter, was the first to measure blood-pressure. He caused various domestic and wild animals to be tied down while he operated on them, of course, without anesthetizing them, as anesthetics were unknown at that time. He inserted into the artery a brass tube, and to that, by means of another brass tube which was fitly adapted to it, fixed an upright glass tube about 9 feet in length. When these parts were shoved together, making a tight joint, the blood was allowed to rise in the upright glass tube. Later he improved the apparatus by using a goose's windpipe for making a pliable joint between the two brass tubes. In order to meet the criticism that changes in the general blood-pressure were caused by occlusion of the vessel under observation, Hales devised a method of taking the pressure measurements from the side of the blood-vessel, leaving the lumen open. He took a cylindrical wooden stick with a hole bored through it from end to end and another hole bored into it at right angles tapping the lengthwise hole. The stick was then split lengthwise into halves and these halves were fitted and cemented with hot pitch around the blood-vessel. After cutting a hole into the blood-vessel where it was exposed at the bottom of the side hole, the upright glass tube was quickly fitted into the side hole and the blood allowed to rise in the tube. By these methods, before the dancing red column had time to clot, he succeeded in measuring with considerable accuracy the changes that took place in the blood-pressure. From these measurements he forecast with remarkable correctness many of the main facts now known of the physiology of the circulation.

Poisseuille[4] made the next improvements by the use of the U-shaped glass tube filled with mercury in place of the upright glass tube filled with the animal's own blood, and also by the use of saturated solutions of sodium carbonate to prevent clotting in the manometer tubes. These changes brought the apparatus into smaller compass and gave direct readings in terms of mercury pressure and allowed long-continued observations on the same animal.

Ludwig[5] saw that the mercury in the open end of the Poisseuille manometer could be made to carry a float with writing point which could be made to trace a record. This led him to the invention of the kymograph to carry the paper on which the point could write. The graphic method made possible a permanent and indisputable record which could be studied at leisure in detail.

More recently there have followed methods for special purposes, such as the more accurate determination of the maximal and minimal pressures by such devices as the maximal and minimal valved mercury manometers, or by the more mobile manometers—one devised by Fick,[6] another by Hürthle;[7] or such as the various more or less accurate methods of determining the blood-pressure in man by the use of some form of the sphygmomanometer, the principle of which was first used by Basch[8] and later modified by Riva-Rocci,[9] by Erlanger[10] and others. These mobile manometers, or maximal and minimal valved manometers, permit a more accurate determination of the maximal and the minimal blood-pressures; but they do not give a direct graphic picture of the changes in the blood-pressure in terms of mercury pressure. The sphygmomanometer has the advantage that it can be used on man or the intact animal; but it does not give a direct graphic picture of the blood-pressure.

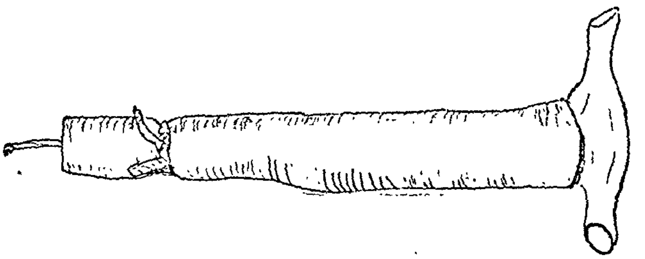

Fig. 1.—Sketch of T-shaped cannula with a piece of rubber tubing attached to side arm which is closed by a paraffined cotton plug which has a string attached for a handle by which the plug may be withdrawn. When used the cannula is interposed between the ends of a transected artery restoring the circulation through the artery, and the wound is closed leaving the [illegible] ough the skin. After the recovery of the an[illegible] the blood-pressure is studied by removing [illegible] the distal end of the rubber tubing, then [illegible] plug by means of the string handle, and then quickly connecting the side arm with the manometer and pressure bottle.

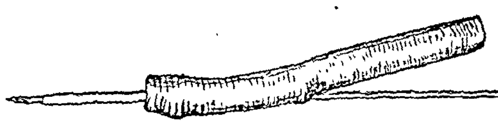

Fig. 2.—Trocar cannula for taking blood-pressure tracings from an unanesthetized animal. The sketch shows the obturator in place ready for insertion into the artery. The operator can tell when the point of the trocar has been successfully thrust into the lumen of the vessel by the blood dripping from the side-hole shown near the blunt end of the obturator. When the trocar has been properly inserted the obturator is entirely withdrawn and the blood-pressure taken with a mercury manometer which, with the pressure bottle, is already in connection with the rubber tube shown in the sketch.

From this sketch it would appear that, while the mercury manometer furnishes the best graphic record showing blood-pressure changes diectly in terms of mercury pressure, yet it does not give a true measure of the maximal or the minimal pressures, and it also is used while the animal is under a general anesthetic. On the other hand, while the other methods may furnish a more accurate measure of the maximal or minimal pressures, and some of them may be used on man or the *intact*

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1. Dixon, W. E.: The Action of Alcohol on the Circulation, Jour. Physiol., 1907, xxxv, 346.
2. François-Franck: Leçons sur les fonctions motrices du cerveau, Paris, 188[illegible], p. 167.
3. Hales, Stephen: Statical Essa[illegible] an Account of Some Hydraulic and [illegible]es; or on the Blood and Blood-Vessels of A[illegible] Made [illegible]
4. Poisseuille, L. L.: Recherches sur la force du cœur aortique, Thèse, Paris, 1828, p. 23.
5. Ludwig, C. C.: Beiträge zur Kenntniss des Einflusses der Respirations-Bewegungen auf den Blutlauf im Aortensysteme, Arch. f. Anat. Physiol. u. wissensch. Med., 1847, p. 242.
6. Fick: Arch. f. d. ges. Physiol., 1883, xxx, 597.
7. Hürthle: Arch. f. d. ges. Physiol., 1888, xliii, 426.
8. von Basch, S.: Centralbl. f. Physiol., 1896, x, 330.
9. Riva-Rocci: Un nuovo sfigmomanometro, Gazz. med. di Torino, 1896, No. 50, p. 51.
10. Erlanger, Joseph: A New Instrument for Determining Systolic and Diastolic Blood-Pressure in Man, Am. Jour. Physiol., 1902, VI, xxii.

unanesthetized animal, yet they fail to give a direct graphic record of the blood-pressure changes in terms of mercury pressure.

METHODS

Therefore it seems that there is still great need of, first, a practical method of connecting the manometer with the blood-vessel without pain to the animal, and therefore without the need of an anesthetic; and, second, a manometer that will record faithfully and graphically in terms of mercury pressure all the quick, minute changes in the blood-pressure. My methods are designed to meet as far as possible the first need.

Three slightly different methods have been employed. As these have been described in a separate article,[11] only brief mention of them is necessary. One method was to insert a thin-walled glass T-shaped cannula (Fig. 1) between the ends of the cut carotid artery, restoring the continuity of the vessel but bringing the side arm, which was closed with a paraffined cotton plug, out to the surface of the skin of the neck. After the recovery of the animal from the anesthetic the cotton plug was withdrawn from the side arm and connection made with the pressure bottle and mercury manometer.

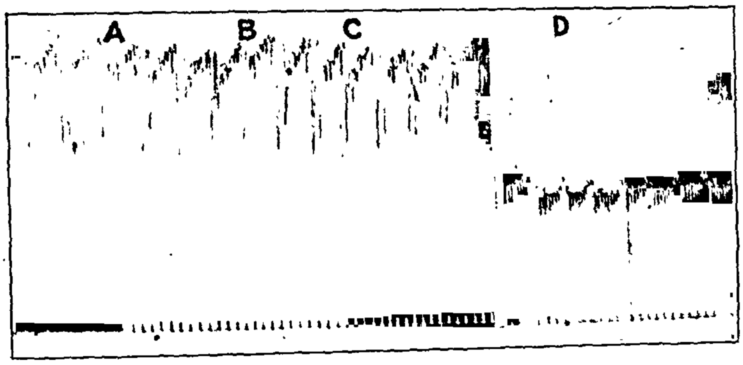

Fig. 3.—Tracing showing the effect of alcohol on general blood-pressure when administered by gastric fistula to the unanesthetized animal: A, normal; B, administration; C, immediately following, and D, eighteen minutes after administration.

Another method consisted in the isolation and preparation of the artery and closing the wound, leaving about 3 inches of the artery brought up close under the skin. After recovery from the anesthetic an ordinary glass three-way cannula was inserted without any anesthetic, although cocain may be used locally if desired.

The third method involved the use of a trocar cannula. Bardier[12] has invented a trocar cannula, but his instrument is not suitable for use on the intact animal. My trocar cannula (Fig. 2) is made of steel and consists of a fine, short, hollow needle arranged with an inner needle or obturator. This obturator has a capillary lengthwise hole running from its point back to the other end. This trocar is attached by a rubber tube to the manometer and pressure bottle as in ordinary blood-pressure tracings. In taking an observation the trocar, with the obturator in place, is thrust quickly into the lumen of the artery. The operator can tell when the point of the trocar is within the vessel by the blood dripping from the capillary hole from the free end of the obturator. When all is ready the obturator is entirely withdrawn and the blood-pressure tracing taken in the usual way on a kymograph. With this cannula, if the narrowness of the needle necessary to use causes clotting to occur, one can withdraw the trocar and remove the clot.

On several successive days I succeeded in taking the manometric blood-pressure tracings. There was no clotting the next day, unless, of course, the arteries were roughly handled or stretched. Sometimes, even in that case, it was possible to remove the clot and secure a successful tracing.

RESULTS

In the application of these blood-pressure methods to the study of alcohol, three different modes of administration were adopted. The first mode was to introduce the alcohol directly into the stomach through a gastric fistula. This fistula was made (under anesthesia) by inserting a piece of small rubber tubing through the abdominal wall into the cavity of the stomach, sewing it in position, and allowing time for it to heal. In general, no distinct increase in blood-pressure or heart-rat followed the administration of alcohol in this manner even when large doses of 50 or 60 per cent. alcohol wer used; there was no apparent reflex stimulation of th heart or vasomotors. But after about fifteen minutes ther began a very gradual decrease in blood-pressure, wit decreased amplitude and increased rate in heart-bea (Fig. 3). This continued progressively for an hour o more, after which *time* the animal, when placed on *th* floor, staggered and rolled, being deeply intoxicated.

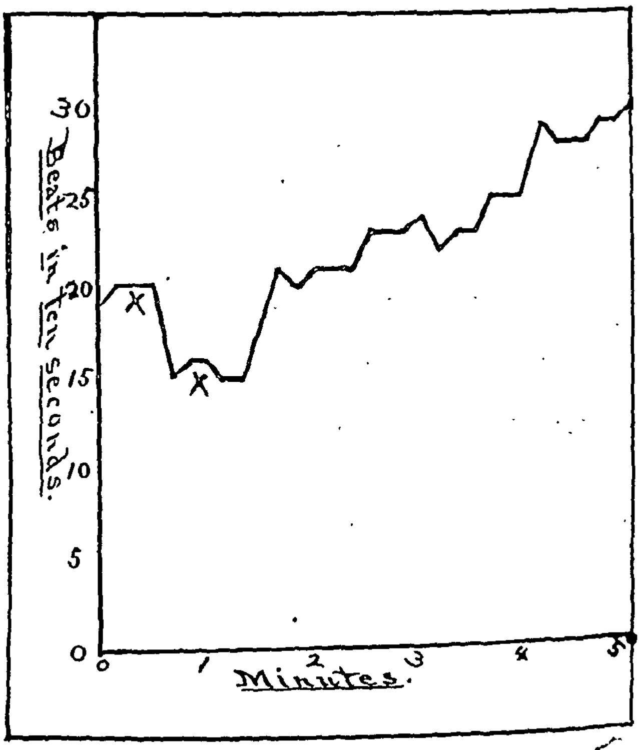

Fig. 4.—Curve showing the effect of intravenous injection hol on the heart-rate of an unanesthetized dog. Between t crosses, 10 c.c. of 25 per cent. alcohol injected slowly into ear

The second mode of administration was to inject th alcohol with a hypodermic syringe directly *into an* ea vein or into a saphenous vein. Although various dos of different dilutions of alcohol were thus administere yet in no case was there observed any *distinct* rise i blood-pressure. If the dose was *large enough to show* distinct action, the result was a decrease in blood-pre sure followed by rapid recovery. *If a still larger* do was administered there was a prompt, sharp drop i blood-pressure with the heart greatly slowed or almo completely stopped; but this was promptly followed b

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11. Brooks, Clyde: Heart, July, 1910, ii.

12. Bardier, C.: Nouveau modèle de canule à pression artérielle. Compt. rend. séances Soc. de biol., 1897, xlix, 1025.

rapid recovery, if the dose was not too large (Fig. 4). After this there ensued the same gradual, progressive decrease in blood-pressure with decreased amplitude and increased rate of heart-beat described above.

The third mode of administration consisted in pouring the alcohol into the mouth of the dog through a rubber tube introduced into one buccal cavity. When alcohol was administered in this way, there followed a sharp rise in blood-pressure with greatly increased amplitude of beat, while the rate remained almost constant or sometimes was slightly slowed. This rise gradually passed off in five or ten minutes, after which there came on the same gradual, progressive changes described above following alcohol by the other two modes of administration. But, in some instances, the very first effect was a quick drop in blood-pressure showing a tracing very similar to that of a vagus stimulation; this drop appeared to occur just when the dog gulped or gagged at the sudden introduction of the alcohol. Almost at once the pressure quickly rose again and passed on up above the normal giving the rise just described, which occurred in every case when alcohol was administered by mouth (Fig. 5).

SUMMARY

This report concerns a series of manometric blood-pressure tracings showing the effect of alcohol on an animal not under the influence of any anesthetic. The alcohol was administered by three different modes, namely, by mouth, by intravenous injection, and by gastric fistula.

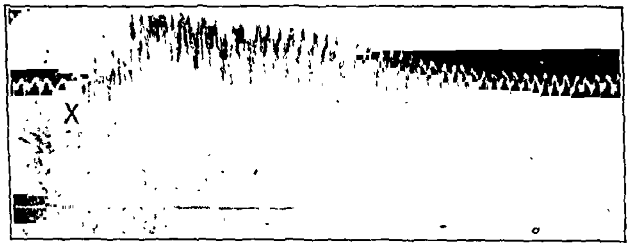

Fig. 5.—Tracing showing the primary effect of alcohol on the general blood-pressure when *administered to the normal unanesthetized* animal by mouth. At X 10 c.c. 50 per cent. alcohol swallowed.

The primary action of alcohol varies according to the mode of administration: By mouth it causes a marked rise in blood-pressure with increased amplitude and a constant, or slightly slowed rhythm of heart-beat. This rise gradually passes off in five or ten minutes. In some instances, at the time of pouring the alcohol into the dog's throat and just preceding the rise mentioned, there is a sudden drop and almost immediate recovery of blood-pressure. When administered intravenously, alcohol causes a sharp drop in blood-pressure during which the heart is greatly slowed or almost stopped; but very soon, unless the dose is too large, there follows a rapid recovery. By gastric fistula there is no specific primary action.

By whatever method administered, alcohol, when circulating in the blood-stream, causes a gradual, progressive lowering of blood-pressure with decrease in amplitude but increase in rate of heart-beat. This I regard as the true pharmacologic action of alcohol on the blood-pressure of the intact unanesthetized animal.

It is a pleasure to express my thanks to Prof. Samuel A. Matthews for his counsel, criticism, and assistance throughout the progress of the work.

REPORT OF THE COMMITTEE ON COLLECTIVE INVESTIGATION CONCERNING THE OCULAR MUSCLES *

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BUFFALO, N. Y.
HOWARD F. HANSELL, M.D.
AND
THEODORE B. SCHNEIDEMANN, M.D.
PHILADELPHIA

Last year this Committee made only a preliminary report, the substance of which was that considering the clinical importance of the subject, the confusion of our data concerning it, and the necessity of a thorough acquaintance with anatomy and physiology as a basis of clinical work, it was deemed advisable to devote at least a year or two to questions which still remain unsolved concerning the anatomy and physiology of the ocular muscles.

We agreed to call a pair of eyes normal when the vision of each was = 6/6 or better, when the manifest ametropia did not exceed 0.75, and the owners of the eyes never had suffered from any asthenopic symptoms. In asking for studies on the muscles of such eyes, we were careful to avoid theories, to ask only for demonstrations which could be seen or photographed if desired, or for results which could be expressed in figures.

The first step was to arrange these questions into groups, each one having divisions and subdivisions, for different members or groups of members, of the Section. Moreover, it seemed desirable, when possible, to have the results verified or corrected by one or two working independently.

It was easy enough to decide on this general plan, the advantages of which were self-evident; but it proved quite a different matter, as was expected, to find proper men ready to engage in what was practically laboratory experiment. At the outset, over eighty members of the Section expressed a willingness to join in the study of the muscles. In the preliminary report last year it was predicted that this number would be much reduced, when careful investigating demanded time and patience of men already deep in clinical work. That prophecy has been gradually fulfilled.

Although the number now engaged in the inquiry has been reduced to less than twenty, the central Committee is still firm in its conviction of the necessity of first settling certain moot points of anatomy and physiology of the ocular muscles in order to agree, so far as possible, on definitions and methods, before attempting to study any abnormal conditions. Besides reporting thus the number now interested in this subject, reference should be made to the fact that they were selected, as far as possible, from among the more progressive or from the younger men. There are, however, differences in their apparent qualifications. Some men have been well known as careful observers; although also busy with large private or hospital practice they have so systematized their days as to find leisure for exact investigation. Others are young, or are strangers to our Section. They are all welcome; only it should be understood that the central Committee cannot hold itself responsible for results given by individuals.

In a report of this kind the Committee can only summarize briefly the findings which have been communicated to them, adding any new evidence which may be available.

In presenting this report it seems advisable to begin with questions of anatomy, and to pass from the simpler to the more complicated problems of the physiology of the muscles.

THE CHECK LIGAMENTS

A subject of much interest to the anatomist and of importance clinically, is the extent and character of the so-called check ligaments.

Even the earlier anatomists saw, from the margins of the orbit, a sort of curtain of connective tissue (the septum examination of some of the tools with which our work is done. Comparatively few studies have been made of the action of drugs on the ciliary muscles. Perhaps the most recent and complete are those given by Lewin and Guillary in their classic "Die Wirkungen von Arzneimitteln und Giften auf das Auge." In that we have a verification of former observations concerning the action of atropin and homatropin, and several other cycloplegics and myotics.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

But still there were desiderata in the form of corroborative observations on moot points. Especially it was desirable to ascertain the different effects, if any, of different doses of the same drug. In doing this, it was evident that the usual method of instilling drops into the conjunctival sac was inexact, for the reason that solutions easily deteriorate, that drops are of unequal size, and the amount which remains on the conjunctiva varies greatly. Therefore for the experiments, our committee sent out previously tested discs, and a description of the method to be followed, with the test types to be used—in other words, the plan adopted was as nearly uniform as possible. In order to make sure that the discs used contained practically the amount of the drug stated by the manufacturers, analyses were first made of all except one lot of the discs distributed. For the care taken in making these analyses, or in having them made, acknowledgment and the thanks of the committee should here be expressed to Dr. H. C. Wood, Jr., of Philadelphia, and Dr. H. L. Begle of Detroit, Mich. It was gratifying to know that the discs manufactured by at least three of the largest firms do contain apparently the percentage of the different drugs as marked on the packages which were purchased by the committee, in open market. It should be added that care was taken not to prejudice the mind of any observer. The name was given of the discs sent, but not of the strength.

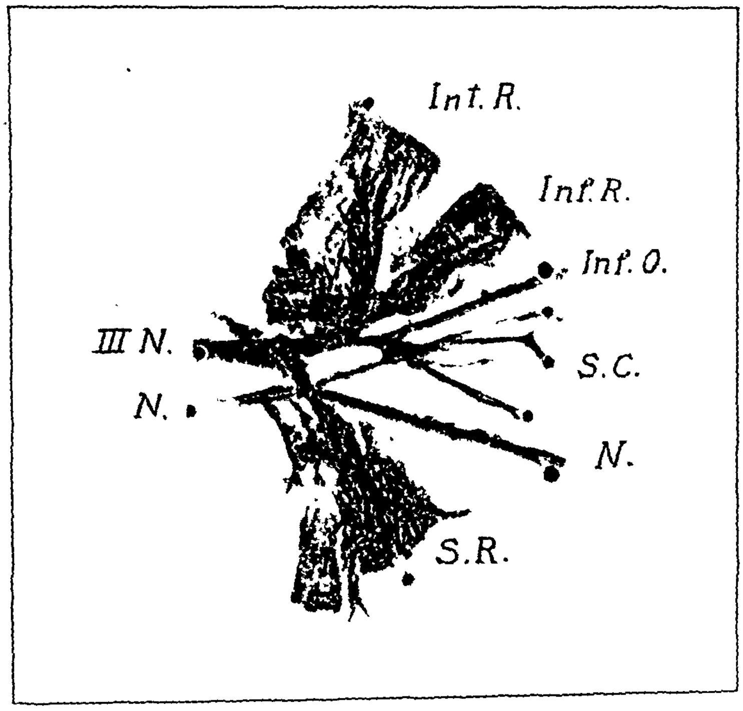

Fig. 5.—View of the ciliary ganglion. External rectus covered with black paper. Dissection by Dr. A. C. Durand.

The results of these studies of the action of different drugs can be referred to in this report only with the utmost brevity. It should be repeated, however, that each observer is at liberty to publish his own results elsewhere, if desired, and some members will undoubtedly do this. The results are arranged as follows:

Cocain.—Although we use this substance so constantly, and although it is ordinarily regarded simply as a mydriatic, exact measurements seem to show that it also produces a slight but real effect on the accommodation. This is indicated by the experiments made by Drs. F. W. Marlow of Syracuse, N. Y., G. A. Sulzer of Columbus, Ohio, and H. H. Martin of Savannah, Ga. They each used tablets containing 1/25 grain (0.0026 gram). Dr. Marlow found the following results:

(a) In a man of 26, after 10 minutes the accommodation had begun to relax; it reached 3 diopters after 50 minutes, continued so for 70 minutes, and the effects then gradually disappeared. Meanwhile, the pupil had dilated from 3 to 7 millimeters after 20 minutes. The pupil then gradually contracted and at the end of 110 minutes had almost regained its origina size.

(b) In a man of 23 the same amount of cocain produce 1 1/2 diopter of relaxation after 50 minutes. The subject wa able to overcome the relaxation only in part when he made special effort, and the cycloplegic effect had disappeared after a hour. Meanwhile the pupil had enlarged from 3.5 to 6 millimeters after 50 minutes, and remained large the rest of th day.

(c) In another man of 24 there was a relaxation of accommodation of 1 1/2 diopters after 60 minutes, with a return t the original condition after 90 minutes. Meanwhile the pupil after 25 minutes, had dilated from 3 to 7 millimeters, an remained 5.5 millimeters in diameter after 110 minutes.

(d) In a boy of 18, 20 minutes after the application th accommodation had relaxed 2 diopters. It remained at practically that point for about 90 minutes, and then graduall reached the original condition. Meanwhile, after 20 minute the pupil had dilated from 3 to 6 millimeters, and continue at almost that point after 120 minutes.

Dr. Sulzer found:

(a) In a girl of 17, half an hour after the application th accommodation was relaxed 1 1/2 diopters. That continue for about 30 minutes. At the end of 70 minutes the accommodation had returned to the original condition.

(b) In a woman of 25, at the end of 25 minutes a relaxatio of 4 diopters occurred. This gradually decreased, until it ha entirely disappeared at the end of 70 minutes. In both case the changes in the pupil accorded practically with the change in the accommodation.

Dr. Martin found, in a subject of 18 years, that within 30 minutes the accommodation had relaxed 2 diopters, and continued at that point for 140 minutes. Meanwhile the pupil dilated from 2 to 4 millimeters, and continued that size during that time.

These experiments seem to warrant the space here devoted to them. For they indicate that in spite of the general opinion to the contrary, this drug has a real cycloplegic, as well as its well-known mydriatic action. Of course, this cycloplegic action must be taken into account whenever tests of the refraction are made after its use. Moreover, attention should be called, incidentally, to the important fact that cocain is contraindicated when there is any tendency to increased tension.

Homatropin.—Although we are all accustomed to use this drug so constantly, few accurate observations have so far been made concerning its effect. Fortunately, one member of the Section, Dr. R. L. Crockett of Oneida, N. Y., has taken considerable interest in this question, and sent to the committee th curves produced by his application of 1/50 grain (0.0013 gram) of homatropin to one eye of 4 individuals, and to both eyes of 3 other individuals, making 10 observations altogether. These apparently have been worked out with much exactness Without going into details, it may be said that this amount of homatropin produced an effect on the accommodation not unlike that of atropin. This effect was not apparent, except in one individual, within the first 10 minutes after the application, but at the end of 15 minutes the accommodation had begun to relax decidedly, and this continued in an almost constant ratio until the end of 35 minutes. In most of the cases there remained at that time only about 1 or 1 1/2 diopter of accommodation available, and by the end of from 45 to 50 minutes complete cycloplegia resulted. Unfortunately no data were given as to the rapidity with which the effect disappeared, and it still remains for some one to establish that curve. The practical fact is that the evidence thus far at our command seems to indicate that a disc of homatropin of that strength is sufficient for all practical purposes unless some spasm of accommodation is present.

Escrin.—Through the careful observations of Donders, we have long known the effect of a moderate dose of calabar bean on the ciliary muscle. But as the pathologic conditions which we recognize as insufficient accommodation and as excessive accommodation are recognized in part by the behavior of the ciliary muscle after the application of a given quantity of eserin to the conjunctiva, it seemed desirable to ascertain whether a relatively large or a small amount of this drug produced curves which differed materially from the curves given by Donders.

For this purpose, Dr. H. H. Martin of Savannah applied eserin in varying strengths to the eyes of a young man of 18. Without giving the details of these observations it would seem that the effect of the 1/1000 of a grain was more marked than the one of 1/2000, and both of these in turn were more marked and lasted a longer time than did the 1/10000 of a grain. The bearing of this, as already stated, is probably of some importance in connection with the diagnosis of insufficient or excessive accommodation.

NORMAL POSITION OF VISUAL AXES

Passing from the ciliary muscle and the effect of drugs on it to the extraocular muscles, it seemed desirable to our Committee to obtain a few more data concerning the normal position of the visual axes when a pair of eyes is at rest and fixed on a distant object directly in front and in the horizontal plane. This is, of course, a re-examination of the measurements made by Bannister on soldiers, and later by the chairman of this committee on soldiers alone, or by him with Dr. C. H. Williams of Boston on other normal eyes. Accordingly a plan was suggested by the Committee in which the tests would be as nearly uniform as possible.

We have reports on this point from Dr. M. V. Ball of Warren, Pa., who examined 38 pairs of normal eyes; from Dr. H. W. Cowper of Buffalo, who examined 22, from Dr. H. C. Parker of Indianapolis, who examined 13, and from Dr. Oscar Wilkinson of Washington, D. C., who examined 4. The details of these examinations would furnish data for a long paper, and are well worthy of publication. It is especially interesting to observe that certain forms of heterophoria can exist in normal eyes in quite a high degree without giving rise to headaches or other symptoms. But, on the other hand, it would seem that when the muscular tone of the individual, as shown by several tests, is sufficient to overcome the heterophoria, then the complaints of the individual are apparently proportionately lessened. Here it is impossible to refer to such details; we can only state briefly that while orthophoria is found to exist in a decided majority of cases (55 per cent. of normal eyes) a well-marked esotropia is often present (32 per cent.), and occasionally exophoria (4 per cent.). The vertical phorias are by no means uncommon (7 per cent.) either alone or combined with some forms of the lateral phorias.

MINIMUM AND MAXIMUM DUCTION, ESPECIALLY OF THE LATERAL MUSCLES

This means the results obtained by use of prisms according to different methods.

It was found some time ago that in testing for diplopia, if we begin with prisms strong enough to produce the double images and pass from these strong prisms to those which are weaker, and allow a certain time to elapse between the application of one prism and the next, or if we select prisms from the case, or use prisms in series which also necessitate each time a distinct change in the muscular adjustments, we reach a certain point in the strength of the prism just sufficient to produce the double vision. The limit obtained by this method has been called "minimum duction." For adduction, it has been found by such tests to be about 6 or 8 degrees, and for abduction from about 4 to 6 degrees. These results in normal eyes seem to be fairly constant.

On the contrary, if we begin with prisms which are not strong enough to produce double vision, and pass gradually to stronger prisms, *not* allowing a certain time to elapse between the application of one prism and the next (as can be done best if we use the revolving prism of Crété or of Risley), it has been found that the results obtained by this method are quite different from those obtained by the other method. This result has been called the "maximum duction." Thus adduction can often be carried up slowly with the revolving prism to 10, 15 degrees or more, and abduction to 8, 10 degrees or more. It is by no means so constant as the minimum duction, varying considerably not only in different individuals, but in the same individual at different times.

Until recently, the possibility of obtaining different results by using different methods was quite overlooked, and the consequence was that the utmost confusion prevailed in methods, and therefore in results.

But at the meeting of this Section in 1906 a resolution was adopted by which we agreed when testing to pass from stronger to weaker prisms—that is, to obtain the minimum duction, or if not thus tested to state the method used. During the past year, several studies have been made to verify or disprove the necessity of this action by the Section. These studies were made by Dr. Frank A. Morrison of Indianapolis, Ind. (26 persons), by Dr. J. W. Scales of Pine Bluff, Ark. (5 persons), and by Drs. H. C. Cowper and F. J. Barrett of Buffalo, N. Y. together, 22 persons. The results of these examinations, like those of the preceding groups, are well worthy of special consideration. Doubtless some of the details of this group of examinations will be published separately. In this report, however, it is only possible to make a brief statement.

(*a*) When we make tests with prisms, beginning with those which are strong enough to produce diplopia and reduce the strength gradually, we find almost invariably that the resulting minimum duction is less than when we begin with weak prisms and pass gradually to those which are stronger.

(*b*) If we gradually increase the strength of the prism, thus exercising a certain group of muscles in a pair of normal eyes, it is almost always possible to educate, as it were, that group of muscles to overcome those prisms. This indicates, so far as such limited data can, that so-called "latent" convergence, divergence, etc., are not always pathologic conditions, if they are at all, but are rather the results of increased strength produced by the exercise with prisms.

The committee desires to call special attention to the fact that several other studies of the physiology of the muscles have been made, but that it is impossible to make any reference to them at present. This is because some of the communications are too incomplete, or because they deal rather with theories than with "demonstrations which can be seen and photographed if desired or with results of measurements which can be expressed in figures." Moreover, a portion of the data must be reserved for another year simply for lack of space, as this report is already much longer than the committee considers usually desirable.

SUMMARY OF THESE OBSERVATIONS

The results obtained by this study of the anatomy and physiology of the ocular muscles can be summarized briefly as follows. We have:

First.—Corroborative evidence concerning the check ligaments, sufficient to warrant a definition of their extent.

Second.—Corroborative evidence of the existence and extent of the secondary insertions of the ocular muscles. All will probably now agree as to their clinical importance.

Third.—A few more exact dissections of the ciliary ganglion.

Passing next to physiology we have:

Fourth.—Corroborative evidence as to the power of accommodation with parallel visual axes.

Fifth.—New curves of the effects of cocain, showing the important fact that it has a cycloplegic action.

Sixth.—A curve for the action of homatropin, 1/50 of a grain.

Seventh.—Curves indicating that various strengths of eserin produce varying curves, showing its effect on the accommodation.

Eighth.—Corroborative evidence that orthophoria for the far point exists only in a small majority of cases.

Ninth.—There is a difference between minimum and maximum duction, the former being quite constant, the latter not ordinarily constant.

Although these data are not numerous they indicate that perhaps a little has been done to give us rather more exact definitions concerning one or two essential points. They also add a few corroborative facts as to some points about which we needed additional light.

RECOMMENDATIONS OF THE COMMITTEE

For next year the recommendations of this committee are as follows:

1. The studies of the anatomy and physiology of the muscles already begun should be continued.

2. If other members of the Section become interested in these questions of anatomy or physiology, their cooperation should be enlisted.

3. As a large number of members of our Section who originally signified their willingness to cooperate in this work temporarily withdrew from it because they could devote themselves only to questions of pathology, as we are now ready to begin with the more fundamental problems of that kind, and as anomalies of accommodation often exert an important influence on the extraocular muscles, especially those involved in convergence, this committee would also recommend that members of the Section who care to study the muscles should turn their attention during the next year to pathologic conditions of the ciliary muscle.

In doing this the principal points would be to ascertain:

A. What are the most reliable methods for measuring the degree of excessive accommodation (spasm)?

(*a*) Is there present actual excessive *accommodation*—that is, excessive accommodation in eyes with practically normal refraction? Or

(*b*) Relative excessive *accommodation*—that is, a normal accommodation with abnormal *refraction*, especially *myopia* and my[illegible] astigmatism, or some degree of hypermetropia or hyp[illegible] astigmatism?

[illegible] ve represents the range of accommodation when [illegible] *lotted on* a system of coordinates?

[illegible] s this curve changed by a weak dose of atropin, [illegible], 0.00001 gram (1/5000 grain)?

[illegible] what are the subjective symptoms—especially, is the [illegible] ache frontal, in the vertex, in the occiput, or does the pain extend to the shoulders?

(*i*) What [illegible] or better methods are there for measuring ex[illegible] odation, or what other symptoms are there to [illegible]?

[illegible] s curve changed by a weak solution of eserin, [illegible] 00001 gram?

[illegible] is the static and dynamic condition of the extra[illegible] muscles, and especially what curve or line represents the [illegible] ve convergence in each such case?

(*g*) Are there any characteristic vertical or horizontal wrinkles present in the forehead of the individual?

B. What are the most reliable methods for measuring the degree of insufficient accommodation (paresis)?

(*a*) Is there present actual insufficient accommodation—that is, insufficient accommodation in eyes with practically normal refraction? Or

(*b*) Relative insufficient accommodation—that is, normal accommodation with abnormal refraction, especially hypermetropia or hypermetropic astigmatism, or some degree of myopia or myopic astigmatism.

(Also give the remaining aspects of the condition, as above, for excessive accommodation.)

C. The committee would also recommend that any member of this Section who cares to join in this part of the study give his address to the Chairman. Blanks would be sent on which the desired data could be properly entered, or, if members request it, suggestions will be made as to the bibliography of the different phases of the subject.

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: The report contains this statement in regard to duction: "For adduction, it has been found by such tests to be about 6 or 8 degrees, and for abduction from about 4 to 6 degrees. These results in normal eyes seem to be fairly constant." I want to call attention to the fact that this is very much lower than the records made by any of the observers who have written on the subject, even a long time ago, and very much lower than would be justified by the results of many of us who have tested the duction power of these muscles. I understand that these figures have been reached by commencing with a very strong prism and coming down to a weaker one. If the result of that sort of investigation is to leave the understanding that adduction is so low and the difference between adduction and abduction so little, my judgment is that it would be misleading. If that plan has been resorted to for one year, why not resort to the other plan and begin with weak prisms and go up and see where we stand? My judgment is that the figures given are lower than the tests would justify if proper means are used. Of course, I can readily understand that the means used by these investigators brought this result.

Dr. Lucien Howe, Buffalo: We are very glad to have suggestions of any kind. The committee has no theories. It seeks only the facts.

THE OCULAR PALSIES ASSOCIATED WITH THE INDUCTION OF SPINAL ANESTHESIA BY VARIOUS SOLUTIONS

WITH A REPORT OF FIVE CASES *

WENDELL REBER, M.D.
PHILADELPHIA

Surgical anesthesia produced by lumbar puncture and injection of various local anesthetics (so-called spinal or lumbar anesthesia) is now not only a well-accredited procedure, but one of daily performance in many of the hospitals in the United States. Bier,[1] O. Förster,[2] and Jonnesco,[3] in Europe, and Wayne Babcock,[4] in this country, as well as many other writers, have pointed out the advantages and contraindications for the procedure. All these authors have alluded to some form of ocular palsy as one of the rare complications of this method of surgical anesthesia. I have, therefore, thought it wise to place on record five instances of such complications and to assemble such other recorded instances as have appeared in the literature.

There have been 2,000 lumbar anesthesias ind[illegible] of the Samaritan Hospital in Philadelphia. Of th[illegible] ber, about 1,400 patients were anesthetized in th[illegible] of Dr. W. Wayne Babcock, surgeon to the h[illegible] About 400 were anesthetized in the service of Dr. [illegible] iam A. Steel, genito-urinary surgeon to the hospit[illegible] 100 more in the service of Dr. C[illegible] Martin, pr[illegible] gist to the hospital, and Dr. J. C[illegible] gate, obstet[illegible] to the hospital. Four of the rep[illegible] ses of resu[illegible] palsy occurred in the department [illegible] l surgery [illegible] one in the department of proctolog[illegible] ould mak[illegible] proportion of one in 400 cases. [illegible] served f[illegible] instances of ocular palsy in 400 [illegible] of lumb[illegible] anesthesia, a proportion of exactly [illegible]

The five cases to be reported follow [illegible] occurr[illegible] in the wards of the Samaritan Hospit[illegible]

Case 1.—B. A., male, aged 42, admitted [illegible] war[illegible] of the Samaritan *Hospital*, May 15, 1908, [illegible] on for hemorrhoids; was a Russian Jew in good [illegible] The anesthesia and operation were without inci[illegible] days after the operation the patient was referred to the ophthalmic out-patient department because of double vision. On examination it was found that the two external recti were involved about equally. Rotation 15 degrees from the median line either to the right or left produced homonymous diplopia. The eyes were otherwise normal anteriorly and the eyegrounds presented no anomalies whatever. The history was negative as to syphilis or any dyscrasia that might give rise to the palsy. Blood-pressure was found normal. The patient was treated with pilocarpin sweats and biniodid of mercury but there was only slight amelioration in the symptoms. He finally recovered so that he could carry either eye 25 degrees from the median line without seeing double. At this juncture he went to his home and has been entirely lost sight of. The palsy, which appeared twelve days after the spinal anesthesia, lasted at least four weeks and in all probability from six to eight weeks longer, judging from the slow progress made during the four weeks the patient remained under observation.

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* Read in the Section on Ophthalmology of [illegible] ical Association, at the Sixty-first Annual Session, June, 1910.

[1] Bier: Ueber den jetzigen Stand der Rücken[illegible] Verhandl. d. deutsch. Gesellsch. f. Chir., 1905.

[2] Förster, O.: Erfahrungen über Spinalana[illegible] klinische Chirurgie, xlvi.

[3] Jonnesco: Am. Jour. Surg., 1910.

[4] Babcock, W.: Med. Jour., August, 1909.

[5] Ach: München. med. Wchnschr., 1907, [illegible]

CASE 2.—J. E., a girl, aged 16, had received spinal anesthesia (6.5 cgm. of stovain solution), for appendectomy, July 26, 1909. October 28 she was referred to the out-patient department of the Samaritan Hospital because of headache, vertigo, and double vision. The latter symptoms she claimed to have suffered from for only four weeks, so that, according to her statement, the palsy did not appear until eight weeks after the operation, which is at least four weeks longer than any other case which I have found in the literature. She was found to have vision of 5/7 in the right eye and 5/9 in the left eye; the eyegrounds were normal in every way. There were no stigmata of hysteria that could be elicited. Both external recti were involved as in the previous case, the diplopia beginning about 10° temporalward from the median line. In view of the fact that the palsy seemed undoubtedly due to the spinal anesthetization alone, it was decided in this case to allow Nature to take its course. The object was, of course, to observe whether spontaneous resolution would occur and how long it would take. One month later the diplopia was not in evidence except at the extreme temporal periphery of both motor fields, but this condition still obtained 6 months after the operation.

CASE 3.—X. Y., male, aged 24, had received spinal anesthesia (6.5 cgm. of stovain in solution) for appendectomy. On the seventh day the patient began to complain of blurred vision and it was found that diplopia was present, the left externus being involved. The patient attributed his disturbance of vision to the fact that he had been reading almost all day during his convalescence. The palsy lasted about one week, but the patient states that for two weeks after the double vision had practically disappeared, he could bring on temporary diplopia by reading steadily for from two to three hours. The refractive status was low myopia and myopic astigmatism being:

R. — 1.00^{s} — 50 cyl. 45° = 5/5
L. — 1.00^{s} — 50 cyl. 135° = 5/5

There was no abnormality in either eyeground. Four weeks after the operation the patient was in very good health, the ocular rotations were smooth and complete in all merdians and the muscle balance absolutely normal.

CASE 4.—A private case in the practice of Dr. W. Wayne Babcock, occurred in an apparently healthy man, 40 years of age, in whom 6.5 cgm. of a 4 per cent. solution of tropacocain dissolved in 10 per cent. alcohol was used. Again it was the externus that was involved, this time only one being affected. The palsy appeared about ten days after the spinal anesthetization, and was of two weeks' duration.

CASE 5.—Miss M. D., aged 19, operated on Feb. 19, 1910, for appendicitis, had received 7 cgm. of stovain intraspinally. The patient did very well and recovery was interrupted by no untoward incident, but on the seventh day after operation she began to complain of double vision and it was found that she had concomitant squint. The left external rectus is palsied at the present writing (five days after the first observation) and that eye cannot be carried beyond the median line. The vision equals 5/7 in the right eye and 5/9 in the left eye. The patient's refraction status is: + 1.50 sph. 1.25 cylinder, axis 90° in both eyes. The accommodative near point is 7 inches in each eye; that is to say, that there are 5.5 diopters of accommodation present as against the normal 10 diopters the patient should have at 19 years of age. This completes the picture of cycloplegia and weakening of the externi as it is so often observed during post-diphtheritic palsies.

The cases recorded in the literature may be arranged in three groups, according as they show involvement of one abducens, both abducens, or the trochlearis and oculomotor in addition to the abducens.

GROUP I: ONE ABDUCENS

Hermes[6] notes a case in which the abducens was involved.

In Deetz's case[7] one abducens became palsied thirteen days after stovainization.

Both of Rausscher's cases[8] showed but one abducens at fault after the use of scopolamin 0.06, morphin 0.08 (presumably generally) and stovain, intraspinally (dose not noted). In the one case the palsy ensued on the eighth day, in the other one on the thirteenth day. Both patients eventually recovered.

In one of the instances recorded by Loeser,[9] left abducens palsy made itself manifest twelve days after lumbar anesthesia for an operation for ovarian abscess in a 35-year-old married woman. The duration of the palsy was twelve days.

Blanluet and Caron's report,[10] concerns a 51-year-old man in whom the spinal anesthesia was induced for an operation for hemorrhoids. Seven minims of a 10 per cent. solution of stovain were used. Diplopia was first noted ten days after the operation, and there was still paresis of the left externus six weeks later at the time of the report.

One of Schmidt-Rimpler's[11] cases is peculiarly interesting in that a permanent concomitant convergent strabismus remained in the eye with the palsied muscle. The transition into concomitant squint was no doubt fostered by the presence of a very considerable hypermetropia with full visual acuity in both eyes. He puts on record another unilateral case[11] in which recovery occurred.

No such fortunate result is recorded in Adam's case[12] of a 33-year-old man on whom stovain was used for a hernia operation. Twenty days later left abducens palsy was in evidence and was quite as pronounced three months later when Adam reported the case. The final outcome is not known. He also records[13] unilateral palsies, one following the use of stovain in a 26-year-old man, the other following the use of novocain in a 27-year-old woman. Recovery ensued in both cases.

Schöler[14] has seen one case after stovain in which chloroform was later necessary to complete the operation, the right externus being involved.

Feilchenfeld,[15] too, has seen two cases of unilateral abducens palsy after stovain, one presenting palsy after four months.

In Vossius'[16] case, a 60-year-old woman (stovain), the palsy persisted after six months.

In Lang's case,[17] on the other hand, that of a 41-year-old man (novocain), recovery was prompt.

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[6] Hermes: Med. Klin., 1906.
[7] Deetz: München. med. Wchnschr., 1906, No. 28.
[8] Rausscher: München. med. Wchnschr., 1906.
[9] Loeser: Med. Klin., 1906, No. 10.
[10] Blanluet and Caron: Rec. d'opth., December, 1906.
[11] Schmidt-Rimpler: Klin. Monatsh. f. Augenh., July, 1907.
[12] Adam: München. med. Wchnschr., 1906.
[13] Adam: Deutsch. med. Wchnschr., 1906.
[14] Schöler: Soc. d'ophth. de Berlin, 1906.
[15] Feilchenfeld: Centralbl. f. prakt. Augenh., 1906.
[16] Vossius: Med. Gesellsch. Giessen, 1906.
[17] Lang: Deutsch. med. Wchnschr., 1906.

Scheppens[18] observed paralysis of the left abducens after intraspinal injection of cocain. It is asserted by this author that the left abducens is the one most frequently affected.

Mühsam[19] records two cases, one in a 26-year-old man in whom 15 cgm. of novocain had been used. Palsy of the right externus ensued and disappeared twenty-one days later. The other was a 27-year-old woman in whom novocain and adrenalin were used, but chloroform had to be added, as the anesthesia was imperfect. This patient also exhibited palsy of the right externus (four days after operation), which lasted twenty-two days.

To this list should be added Cases 3, 4 and 5 reported at the beginning of this paper.

GROUP II. BILATERAL CASES

Lang[20] puts on record an instance of bilateral abducens palsy as seen in a 61-year-old man in whom lumbar anesthesia was induced with novocain and adrenalin. The palsy appeared on the right side eleven days, on the left side thirty days after operation, and persisted at the time of the report of the case some months later.

Baisch[21] also has seen a bilateral case following the intraspinal use of alypin. The diplopia was of but five days' duration.

In Goetermann's case[22] tropacocain and adrenalin were used. Eight days later palsy of both abducens was noted, and is ascribed by the reporter to some toxic influence exerted on the nucleus.

Novocain and suprarenin were used in Landow's case.[23] Chloroform also had to be added to secure complete anesthesia. The ocular condition developed seven days after operation, and was accompanied by severe cephalalgia and pain in the cervical region. Recovery eventually ensued.

Ach's four cases[24] were encountered in 400 cases of spinal anesthesia.

To these cases should be added Cases 1 and 2, reported at the beginning of this paper.

GROUP III: CASES SHOWING INVOLVEMENT OF OTHER MUSCLES THAN THE ABDUCENS

Mingazini[25] observed almost complete bilateral ophthalmoplegia externa in a youth of 16 thirteen days after spinal anesthesia for varicocele. To the oculomuscular condition was added paralysis of the velum palati, of the constrictor of the eyelids, of the muscles of mastication and finally sensitivo-sensorial hypesthesia on the left side. The muscles of the extremities were also weakened. This complexus of symptoms corresponds to pseudoparalytic myasthenia gravis, but it is also to be noted that the youth showed pronounced hereditary neurotic tendencies for more than a year before the spinal anesthesia was induced.

In Becker's case[26] there was palsy of the third nerve as well as of the abducens (incomplete unilateral ophthalmoplegia externa) eleven days after intraspinal use of 6 cgm. of stovain, the palsy being of four weeks' duration.

Loeser[9] reports the only case so far on record of palsy of the superior oblique. It occurred twelve days after novocain had been used. Six months later recovery was complete.

Analysis of the table which brings together all the cases that could be found in the literature indicates the following points to be considered:

I. The alkaloid used.

II. The dose.

III. The muscle affected.

IV. The interval between the spinal anesthesia and the appearance of the palsy.

V. The duration of the palsy and the frequency of recovery.

VI. The pathogenesis of the condition.

VII. The frequency with which the surgeon may expect it to occur as a complication.

I. THE ALKALOID USED

A glance at the table will show that nearly every local anesthetic has been employed, stovain leading the list. In the order of frequency of use in this series they are as follows: stovain twenty-one times, novocain six times, tropacocain three times and cocain and alypin each once. In four cases it is not known what anesthetic was used. W. Wayne Babcock, in a private communication, informs me that he has also used eucain and cocain lactate. While some of the continental surgeons have claimed a certain selective affinity of some one of the agents named for certain of the nuclei governing the ocular muscles, there is nothing in the facts to support the contention.

II. THE DOSE EMPLOYED

Unfortunately this factor has not been sufficiently often set down in the literature to make it as yet of much value. Judging from the few instances in which the dose is stated, it would seem that continental surgeons are rather given to doses ranging from 10 to 15 cgm., while American surgeons lean toward smaller dosage, 5 to 7 cgm. being the amount usually introduced into the spinal canal. This may have something to do with the seemingly slighter frequency of ocular palsies as a complication of spinal analgesia as seen in this country; but this point will be alluded to later on.

III. THE MUSCLE OR MUSCLES INVOLVED

It is a noteworthy fact that of the thirty-six cases that have been brought together thirty-three showed involvement of the external recti alone. Two exhibited incomplete ophthalmoplegia externa and one presented fourth-nerve palsy.

IV. THE INTERVAL BETWEEN THE PRODUCTION OF THE SPINAL ANALGESIA AND THE ONSET OF THE PALSY

In the twenty-seven cases in which the time of onset of the palsy is noted, the average time of onset was ten days after the spinal analgesia was induced. In two cases the interval was but four days (Mühsam, novocain-analgesia, and Ach, stovain-analgesia) and in another five days (Loeser, novocain-analgesia) and in another six days (Vossius—no note as to which analgesia was used). Inasmuch as the great majority of the remaining operations reported were done under stovain, it would rather appear that novocain predisposes to earlier onset of the ocular palsies, when they do occur, than the other analgesic agents employed for this purpose. Over against this seeming argument stands the contradictory findings in Lang's case[20] in which 15 cgm. of novocain were used intraspinally and the palsy did not appear in the right eye until the eleventh day and in the left eye until the

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18. Scheppens: Clin. Opht., Nov. 25, 1908.
19. Mühsam: Deutsch. med. Wchnschr., 1906.
20. Lang: Deutsch. med. Wchnschr., 1906.
21. Baisch: München med. Wchnschr., 1906.
22. Goetermann: Berl. klin. Wchnschr., 1908, No. 28.
23. Landow: München. med. Wchnschr., July 24, 1906.
24. Ach: München. med. Wchnschr., liv.
25. Mingazini: Rev. Neurol., March 15, 1908.
26. Becker: München. med. Wchnschr., 1906, No. 28.

thirtieth day! Whereas in Vossius' case, above referred to, but 8 cgm. of novocain were used with but four days' interval between the use of the anesthetic and the onset of the palsy. Plainly, some other factors must be at work. With these I shall deal when discussing the pathogenesis of these palsies.

V. THE DURATION OF THE PALSY AND FREQUENCY OF RECOVERY

There is much uncertainty about this phase of the matter. In twenty-six cases in which this datum is alluded to, five seem to have been transitory, as the duration was but from five to six days and the patient was very little if at all inconvenienced thereby. In one case eight days elapsed before single vision ensued, in another twelve and in three others twenty-one, twenty-two and twenty-three days, respectively. In one case recovery is noted after six months and in another after eight months; but in five at least the palsy seemed as fixed at the time of report of the case as it was at first.

In all, sixteen positive recoveries are recorded in twenty-six cases that were watched, although one of them, as stated, was eight months in achieving single vision. It would, therefore, appear that a certain small percentage (as yet unfixed) will exhibit some form of permanent ocular palsy as one of serious complications of spinal analgesia.

VI. THE PATHOGENESIS OF SUCH PALSIES

The pathogenesis of these palsies is not clear. Adam[12] quotes Oppenheim in his opinion that tiny nuclear hemorrhages are the cause of such palsies, and Kalt,[27] in the discussion of Blanluet and Caron's case, asked whether the symptoms might not have been due to an ordinary hemorrhage which took place at the time of injection. The argument, however, does not explain the usual interval of eight to ten days between the spinal anesthetization and the onset of the palsy. To meet this particular objection Müller[28] suggests that these palsies may be due to inflammation in consequence of overstretching or crushing suffered by the nucleus or nerve during or after the sudden outflow of the cerebrospinal fluid. Blanluet and Caron[10] are seemingly much of the same mind, for they feel that we cannot lightly put aside the idea of an infectious meningitis in such cases. They further urge that a subsequent lumbar puncture done with the idea of examination of the cerebrospinal fluid be performed at the same time such palsies occur. The facts that these palsies are frequently one-sided seems to them to exclude the possibility of toxemia which generally produces bilateral phenomena (see Babcock's remarks following).

The superficial position of the abducens nucleus in the fourth ventricle is advanced by Schmidt-Rimpler[11] as the most probable reason for the frequent involvement of the muscles supplied by the sixth nerve. The fourth ventricle communicates through the foramen of Majendie and the lateral apertures with the arachnoid space of the cord which contains the anesthetizing fluid. Involment of the roots of the vagus and glossopharyn-

OCULAR PALSIES RESULTING FROM SPINAL ANESTHESIA

Reporter.	Reference.	Age.	Sex.	Alkaloid Used.	Dose. Cgm.	Muscles Affected.	Time After Operation Palsy Appeared. Days.	Duration of Palsy.	Result.
Loeser	Med. Klin., 1906, No. 10	45	M.	Novocain	?	L. sup. oblique	5	6 mos.	Recovery.
Loeser	Med. Klin., 1906 No. 10	25	F.	Stovain	?	L. ext. rect.	8	8 mos.	Recovery.
Schoeler	Soc. d'Opht. de Berlin, 1906	?	?	Stovain	?	R. ext. rect.	8	?	?
Feilchenfeld	1906	?	?	Stovain	?	L. ext. rect.	12	?	?
Feilchenfeld	1906	?	?	Stovain	?	L. ext. rect.	?	?	?
C. Adam	München. Med. Wchnschr., 1906	33	M.	Stovain	?	L. ext. rect.	20	3 mos.	Still palsied at time of report.
Mühsam	Deutsch Med. Wchnschr., 1906	26	M.	Stovain	15	R. ext. rect.	10	21 days.	Recovery.
Mühsam	Deutsch Med. Wchnschr., 1906	27	F.	Novocain	8	R. ext. rect	4	22 days.	Recovery.
Lang	Deutsch Med. Wchnschr., 1906	61	M.	Novocain	15	Both ext. rect.	R. 11 L. 30	?	Persisted at time of report.
Lang	Deutsch Med. Wchnschr., 1906	41	M.	Novocain	?	L. ext. rect.	11	5 days.	Recovery.
Vossius	Med. Gesellsch. Giesen, 1906	60	F.	?	?	L. ext. rect.	6	?	Persisted after 6 months.
Blanluet and Caron.	Soc. d'Opht. de Paris, 1906	51	M.	Stovain	5	L. ext. rect.	9	?	Persisted after 6 months.
Hermes	Med. Klin., 1906	?	?	?	?	One ext. rect.	?	?	?
Deetz	München. Med. Wchnschr., 1906, No. 28.	?	?	Stovain	?	One ext. rect.	12	?	?
Rausscher	München. Med. Wchnschr., 1906	?	?	Stovain	?	One ext. rect.	8	?	Recovery.
Rausscher	München. Med. Wchnschr., 1906	?	?	Stovain	?	One ext. rect.	13	?	Recovery.
Loeser	Med. Klin., 1906, No. 10	25	F.	Stovain	?	L. ext. rect.	12	12 days.	Recovery.
Schmidt-Rimpler.	Klin. Monatsbl. f. Augenh., July, 1907.	?	?	?	?	One ext. rect.	?	?	Recovery.
Schmidt-Rimpler.	Klin. Monatsbl. f. Augenh., July, 1907.	?	?	?	?	One ext. rect.	?	?	Palsy persisted.
Adam	Deutsch Med. Wchnschr., 1906	26	M	Stovain	?	One ext. rect.	?	?	Recovery.
Adam	Deutsch Med. Wchnschr., 1906	26	F.	Novocain	?	One ext. rect.	?	?	Recovery.
Scheppens	Clin Opht., Nov. 25, 1908	?	?	Cocain.	?	L. ext. rect.	?	?	?
Baisch	1906.	?	?	Alypin.	?	Both ext. rect	?	5 days.	Recovery.
Goetermann	No. 28.	?	?	Tropacocain.	?	Both ext. rect.	8	?	?
Landow	München. Med. Wchnschr., 1906	?	?	Novocain.	?	Both ext. rect.	7	?	Recovery.
Mingazini	Rev. Neurol., March 15, 1906	16	M.	Stovain	?	Almost complete ophthalmoplegia externa.	13	?	?
Becker	München. Med. Wchnschr., 1906	?	?	Stovain	6	Third nerve and sixth nerve.	11	?	?
Ach	München. Med. Wchnschr., 1907	?	?	Stovain	?	One ext. rect.	8	21 days.	Recovery.
Ach	München. Med. Wchnschr., 1907	?	?	Stovain	?	One ext. rect.	4	43 days.	Recovery.
Ach	München. Med. Wchnschr., 1907	?	?	Stovain	?	One ext. rect.	11	6 days.	Recovery.
Ach	München. Med. Wchnschr., 1907	?	?	Tropacocain.	?	One ext. rect.	7	8 days.	Recovery.
Reber	Present report	40	M.	Stovain	6½	Both ext. rect.	12	?	Persisted at the time he left hospital.
Reber	Present report	16	F.	Stovain	6½	Both ext. rect.	8 weeks.	6 mos.	Palsy persisted.
Reber	Present report	24	M.	Stovain	6½	L. ext. rect.	7	7 days.	Recovery.
Reber	Present report	35	M.	Tropacocain.	6½	One ext. rect.	10	14 days	Recovery.
Reber	Present report	19	F.	Stovain	6½	L. ext. rect.	7	?	Under observation only 3 days at time of report.

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[27] Kalt: Ophthalmic Year-Book, 1907, p. 95.
[28] Müller: Ztschr. f. Augenh., April, 1908.

geus which have likewise a superficial position are not rare in lumbar anesthesia. The fact that these particular palsies do not occur until about eight to ten days after the spinal anesthesia has been advanced, says Schmidt-Rimpler, is an objection to the above hypothesis, but (he goes on to say) "we observe an analogy in the delayed effect of the *diphtheria toxins on the ocular* nerves which also do not generally occur until several weeks after the recovery from the primary disease." Ach[24] evidently had just some such idea in mind when he made his experiments on eighteen rabbits to learn whether colored fluids injected into the spinal canal do really reach the base of the brain. He quotes Quincke, Jacob, and Crile, all of whom assert that colored fluids do rapidly reach the basis cerebri; but Ach could get no such results himself. Braun (quoted by Ach) contends that animal experimentation has only lent confusion to our ideas on this subject. Ach feels that stovain is the offending substance and should be avoided. He also counsels that patients should remain in a semirecumbent position with the shoulders raised for some time after the injections. Feilchenfeld[15] goes further than Ach in his belief that stovain is the chief offending substance and holds that there is an elective affinity of the various anesthetic substances for the various tissues and nuclei in the fourth ventricle. He even goes so far as to assert that stovain is most likely to produce abducens palsy, while novocain selects the trochlearis for its special action! A glance at the accompanying table will show that of the six times novocain was used for spinal analgesia it produced trochlearis palsy once and abducens palsy five times; so that his theory meets with no support from the facts.

Pechin,[29] in discussing Blanleut and Caron's case, remarked that it was possible for the liquid injected to have reached the higher centers by diffusion and thus come in contact with the sixth nerve nuclei. In the case reported, he was inclined to view the oculomuscular disturbance as of labyrinthine origin, from the presence of the drug in the cerebrospinal liquid bathing the ampulla. Bonnier,[30] too, urges that the intimate relation which exists between irritation of the labyrinth and oculomuscular disturbances has not been sufficiently recognized. He points out that it is only recently that the association between otitis and palsy of the sixth nerve has become well known (Gradenigo's syndrome), although many authors have called attention to the association. Bonnier thinks that the connection between oculomuscular disturbance and labyrinthine disease is as frequent as such association between the former and affections of the globe is rare. He believes that this gives the clue to the explanation of the occurrence of oculomuscular disturbance after spinal anesthetization. The fluid injected reaches the cavity of the labyrinth and there comes into the closest contact with the nervous mechanism of the ear, which involves a motor nerve of the eye, the sixth being most frequently affected.

W. Wayne Babcock has still another theory to account for these palsies; and, as he has personally induced nearly 1,500 spinal analgesias, I wrote him in reference to the matter. His reply follows:

> There have now been given by Dr. Steele, Dr. Martin (and his assistants), Dr. Applegate and myself, about 2,000 injections for the production of spinal analgesia. Personally, I have given about 1,400 injections, having used stovain, tropacocain, eucain, cocain lactate, novocain and alypin. Most of the injections have been given with stovain or tropacocain. These analgesics have been given dissolved in water, with or without the addition of sodium chlorid, adrenalin, 10 per cent. alcohol or strychnin. I have had great difficulty in securing uniform solutions, although ampoules of the solution have been prepared for us by German, French and several American chemists, and we have also prepared the solutions extemporaneously. All these local anesthetics seem to share with cocain, though perhaps to a lesser degree, instability in the presence of heat, so that boiling may set free certain undesirable and even toxic substances. I have noticed the clinical evidence of this with cocain in decreased anesthetic action and severe pain after the injections of boiled solutions of this alkaloid for purposes of ordinary local anesthesia. I have seen local necrosis follow the injection of stovain in strong solution in the prepuce. When used for spinal analgesia, boiled stovain solutions give more frequent and more severe secondary headaches (and, at times even stiffness and rigidity of the muscles of the back of the neck) than solutions which have not been exposed to high degrees of heat. Moreover, the solutions which show the greatest untoward after-effects seem to show a deficiency in analgesic power. Similar observations have been made in reference to tropacocain.
>
> Despite considerable correspondence, we have not been able to secure uniform solutions from some of the chemists we have appealed to. One lot of 100 ampoules (Tyndalized) gave excellent anesthesia and were practically free from all secondary effects; the use of another lot would be found deficient in analgesia, with marked secondary headaches and occasional rigidity of the muscles of the back of the neck. Jonnesco, who apparently has recently come to the same conclusion, prepares the solution at the time of each injection, and never subjects the stovain or other substance employed to heat.
>
> Influenced by our investigations showing the marked antiseptic properties of stovain, we have recently been led to dispense with the sterilization of stovain, and a limited use of such extemporized solutions has given us much satisfaction. It has been our custom to discontinue the use of certain lots of ampoules as soon as we determined that they gave rise to frequent secondary headaches or other undesirable phenomena. Occasionally it has happened, however, that others connected with the Samaritan Hospital staff, not knowing that a certain solution had been discarded by us, have once or twice used such solutions. It was after the use of such a solution (that I had practically condemned) that the first case of ocular palsy in the service of Dr. Martin occurred. A recent case occurred after the receipt of a new lot of ampoules, which we assumed were identical with the satisfactory lot previously used, but which evidently had been more or less decomposed by heat. In the last case, 4 per cent. tropacocain was used, dissolved in 10 per cent. alcohol. It is my belief that in all cases the amount varied between 5 and 8 cgm. In a number of instances, we have given high injections of tropacocain or stovain, including injections through the seventh cervical or the first dorsal interspace; also we have secured high anesthesia by injecting into the lower dorsal region, solutions of a low specific gravity, with the patient so arranged that the solutions would ascend and affect the upper cord. After none of these injections have we observed ocular or other palsy.
>
> The interesting fact is that all of the four cases in which ocular palsies have been noticed have occurred after injections for analgesia of the lower abdominal segments.
>
> At the present time, I would draw the following conclusions:
>
> 1. We have no positive final proof that pure stovain or tropacocain, when used for spinal analgesia will be followed by paralysis of the ocular muscles.
> 2. The use of solutions of both stovain and tropacocain may be followed by such palsies and by other symptoms suggesting the presence of associated by-products.
> 3. The palsy may occur irrespective of the use of adrenalin, alcohol, glucose or other admixture, although it is possible that some of these substances may accentuate or favor the undesirable effect.
> 4. The antiseptic properties of stovain and tropacocain and the fact that in quite a number of instances I have withdrawn cerebrospinal fluid from one to many days after the spinal analgesia, and have never found the slightest turbidity of cel-

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29. Pechin: Ophthalmic Year-Book, 1907, p. 96.
30. Bonnier: Ann. d'Ocul., July, 1907, p. 67.

lular exudate, or other indication of inflammatory action, inclines me to the belief that sepsis or a bacterial irritation is not responsible for the ocular palsy.

5. An incidence of ocular palsy in one to 400 or 500 spinal analgesias and the occurrence of frequent headaches should make surgeons very careful to avoid heated or decomposed solutions for spinal analgesias.

6. Spinal analgesia should not be discredited by the untoward effects resulting from decomposition or contaminating by-products. Unfortunately, no Squibb has yet arisen to do for spinal analgesics what has been done for ether and chloroform.

It may be interesting to add that I have seen a much greater incidence of brachial and musculospiral palsy after etherization than muscular palsy after spinal analgesia.

The ideas advanced by Babcock seem to me plausible, and it is possible that if this phase of the subject is followed out it may help much to clarify the present confusion concerning the pathogenesis of these palsies. Further investigation of this subject would imply at least two lines of action. First, the most careful polariscopic studies should be made of both boiled and unboiled solutions of the local anesthetics used for spinal analgesia, this to be supplemented by animal experimentation as to toxicity or non-toxicity of heated or boiled solutions as compared with non-heated solutions. At the same time I am deeply impressed with the findings in Case 5, which occurred on the day this paper was to be forwarded to the Secretary of the Section. In this case we have combined the cycloplegia and weakness of the externi so characteristic of the post-diphtheritic toxemias, and it is difficult to put aside the conviction that some form of low-grade toxemia is operative in these cases.

Finally, if, as herein shown, two cases in 2,000 spinal analgesias exhibit, as by-products, ocular palsies of more than three months' duration, it must be admitted by all conservative surgeons that there exists a remote complication of spinal analgesia thus induced that should be taken into account. Whether it be due to the presence of the by-product referred to or to actual anatomic lesions following the use of the analgesic agent, or to some obscure toxemia, remains to be settled.

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ABSTRACT OF DISCUSSION

Dr. John Green, Jr., St. Louis: Spinal anesthesia, or analgesia, as its exponents prefer to call it, has received fresh impetus through the energetic advocacy of Dr. Jonnesco, who has made pilgrimages to foreign countries and personally demonstrated before large bodies of medical men the technic of this procedure, and it is safe to say that ten spinal anesthesias are being induced to-day where one was induced two years ago. For this reason it is entirely proper that the results of this method, whether favorable or unfavorable, should be carefully scrutinized and the dangers, if any, definitely determined. Dr. Reber is to be commended for bringing to our attention perhaps the most serious effect of spinal anesthesia, namely, ocular muscle palsy.

The most fascinating problem connected with this subject is that of the pathogenesis of these palsies. Oppenheim ascribes them to tiny nuclear hemorrhages and Kalt to ordinary hemorrhages at the time of injection. Dr. Reber believes that the late appearance of these palsies, averaging ten days after the injection, speaks against these hypotheses. Let us recall, however, that hemorrhage into a nerve sheath of traumatic origin may not evoke an immediate palsy and it is quite impossible that a palsy incident to hemorrhage from spinal anesthesia may likewise be delayed.

Müller's suggestion of an inflammation of the nuclei and nerve trunks as the result of mechanical stretching or crushing incident to the outflow of cerebrospinal fluid seems at least plausible. It should not be forgotten that the withdrawal of cerebrospinal fluid, even in small quantities, brings about a change in the relation of the skull box to the brain mass; so that we may have a slight shifting of the brain. The delicate brain does not adjust itself after disturbance, as, for instance, do the organs of the abdominal cavity. A slight alteration in pressure, the impinging of a bony prominence on a portion of brain which before was free from such contact, may have unsuspected consequences.

It hardly seems possible to accept the theory of a meningitis, as advanced by Blanluet and Caron, in the absence of more definite signs pointing to this disorder. The case cited by Dr. Reber, in which there was weakness of the externi and diminution of power of accommodation, would lend support to Schmidt-Rimpler's conception of a toxic process analogous to the effect of diphtheria toxin. Dr. Babcock's experience has led him to somewhat similar conclusions. In this connection it may be well to inquire what untoward effects have been observed as the result of simple lumbar puncture. I am informed by Dr. W. W. Graves of St. Louis, who in the past two years has performed about 350 lumbar punctures, that unpleasant or alarming symptoms, such as headache, prostration, a fall of arterial pressure accompanied by coldness of the extremities and feeble cardiac action are frequent. Individuals with angiosclerosis and low blood-pressure, from whom a relatively large quantity of cerebrospinal fluid has been withdrawn, are especially liable to exhibit such symptoms. Another factor in the development of these after effects has been the failure to maintain a recumbent posture for from twenty-four to forty-eight hours. No cases of ocular palsy have occurred in this series.

But ocular palsies, after simple lumbar puncture, do occasionally occur. H. Wolff (*Berl. Klin. Wchnschr.*, Oct. 14, 1907), relates the following case: A trocar was introduced into the subarachnoid space of a thirty-six year old man preparatory to the injection of stovain solution. As a few drops of blood appeared, it was deemed unwise to inject the anesthetic solution, and the patient was operated in general narcosis. A few hours after the operation, the patient complained of severe backache radiating to the shoulders and chest. The following day there was intense pain in the head and neck, and on the fifth day a well marked right abducens palsy appeared. The latter gradually diminished but did not clear up entirely until eleven weeks after the injection. Wolff points out the similarity, as to onset and course, with the palsy following spinal anesthesia. In his opinion, the formation of an intradural hematoma gave rise to toxic products which acted on the abducens nucleus or intradural course of the nerve.

If ocular palsy may occur after simple lumbar puncture, is it not probable that the lumbar puncture preliminary to the introduction of an anesthetic solution may, more frequently than has been supposed, offer the true explanation for the paralysis?

Dr. W. W. Graves, St. Louis: As you have just heard from Dr. John Green, Jr., I have made about 350 lumbar punctures during the last two years, and I have not seen any ocular palsies, but I have seen some untoward effects. These untoward effects have occurred in individuals who have had rather marked arterial changes, associated with a relatively low arterial tension, and in cases in which it has been impossible to keep the patient in a recumbent position for forty-eight hours after the puncture. In those cases of decided arteriosclerosis with high tension I have not found, even where my 48-hour rule has not been followed, any untoward effects. So I take it from this experience that the physiological relation between arterial tension on the one hand and the vascular condition on the other was disturbed by withdrawing fluid and thus was brought about the untoward effects mentioned by Dr. Green; but so far, never ocular palsies. The fact that most of these palsies, as I understood Dr. Reber to say, do clear up in time, would almost exclude nuclear lesion. Definite nuclear lesions do not as a rule proceed to complete recovery in any length of time.

In talking this matter over with Dr. Green I expressed the view that it was the sudden disturbance of that normal, physiologic process which maintains a balance between the secretion of cerebrospinal fluid and its absorption. The sudden lowering or sudden increase of pressure by the withdrawal of fluid or by the introduction of foreign matter, as the stovain solution, may disturb this balance, and if this is true, it is quite thinkable that we may have a disturbance in function of any part of the nervous system. Nervous tissue, unlike other tissues of the body, will not stand sudden interference with its equilibrium, sudden pressures or sudden pulls and stretchings. Having previously a defective arterial system, as an arteriosclerosis, thrombosis of minute vessels incident to the lowering of arterial tension from the withdrawing of spinal fluid seems possible, and in this way ocular muscle palsies might occur. Furthermore, anything that will suddenly interfere with that normal equilibrium maintained in the central nervous system is capable in a mechanical way, it seems to me, of bringing about certain palsies. The fact that the abducens is particularly vulnerable may be accounted for by its course and its exposure to pressure and torsion, different from that of the other cranial nerves. Another factor that has occurred to me is this: Those patients operated on surgically are not, as a rule, examined previously neurologically or ophthalmologically, and may it not be that in some cases there has been a preexisting lesion, and the sudden disturbance of intracranial pressure by the withdrawal of fluid or the introduction of more fluid may be but one factor in the production of these palsies; in other words, may it not be that an unrecognized condition was present before the lumbar puncture was made or before fluid was introduced into the spinal canal?

Dr. Alfred Saenger, Hamburg: I am not prepared to discuss this paper, but I will tell you my experience in Hamburg at the Hospital of St. Georg. In our hospital we have seen paralysis of the abducens nerve in, I think, only five cases; but in one case it was a paralysis, not only of the abducens nerve; and it was an especially deplorable case because the patient was also a doctor of medicine. He had arteriosclerosis, and, in consequence, gangrene of the left foot. The surgeon told him that it was not necessary to use chloroform anesthesia, but that lumbar anesthesia with stovain would be used. He was pleased that the lumbar anesthesia could be used, because he had a fear of chloroform. But after the anesthesia he had paresis of the right abducens, and, curiously, paralysis of the median and a neuritis of the right crural nerve, and was compelled to remain in bed. The paralysis of the abducens lasted about four months and the paralysis of the median for about the same period. The neuritis of the crural nerve is better, but there remains an atrophy of the median nerve which will last permanently. I am of the opinion that the drug caused this affection, and we have to admit that stovain may cause paresis of the abducens.

Dr. James Bordley, Baltimore: Dr. Cushing in his work on brain tumor has had several cases of paralysis of the external rectus, and it has occurred to me that the same cause which produced this change in the patients with brain tumor might have produced it in those in whom irritating solutions were injected into the spinal canal. Normally, the nerve at its exit at the base of the brain lies external to the artery, but in some cases—in every case of Dr. Cushing's with brain tumor resulting in paralysis of the external muscle—the nerve was next to the brain and the artery external. As the edema of the brain from pressure increases it puts the artery on the stretch and the more the artery stretches the deeper it tunnels the brain, and under the artery lies the paralyzed nerve. It is the stretching of the artery as the result of the edema of the brain, and secondarily, the pressure of the artery on that nerve, which produces the paralysis.

Dr. G. C. Savage, Nashville, Tenn.: I learn from Dr. Reber's paper that there are two points through which the needle may be passed in making these injections. To pass a needle connected with an empty syringe at one of these places and insert the needle with the filled syringe at the other place, and then simultaneously withdraw fluid with the empty syringe and inject the anesthetic with the other, that would enable one to put in just as much fluid as was taken out, and certainly would not increase or decrease the amount of pressure within.

Dr. W. Reber, Philadelphia: Dr. Savage has suggested what Dr. Babcock has done repeatedly, and also, I believe, Dr. Morton of San Francisco, and one or two others. It is a comforting thing that the duration of these palsies, as a rule, is self-limited; approximately two to four weeks. But I regret to say to you that recently I saw a young woman who had been under observation for eleven months and she still had absolutely the same degree of bilateral external rectus palsy. Strangely enough, the temporal rotation in each eye (individually) was 45°! I can see the possibility of ground for legal action in these cases, and feel that it is necessary to bring out that point. Dr. Babcock himself has done about 2,100 spinal anesthesias and recognizes the gravity of this complication. At the Samaritan Hospital in Philadelphia the amount of cerebrospinal fluid withdrawn is a minimal amount; only a few drops are allowed to escape. For a long while they estimated it at a few drops and then they measured and found the average amount was about 10 c.c. They usually introduce about 6 c.c. of the anesthetic agent, no matter which one it may be. Those foreign authors who think the anesthetic agent has a selective action on any one muscle have absolutely no basis for their conclusion, for with stovain one may observe a palsy in any one of the muscles supplied by the third, fourth and sixth nerve. There is no selective action in evidence in the cases submitted by me. Dr. Graves' remarks are pertinent, for no neurologic or ophthalmologic examination was made. I was also gratified at Dr. Saenger's discussion in calling attention to the fact that his patient had very bad arteries. This may be a deciding factor in a goodly percentage of cases. I am also tremendously interested in Dr. Bordley's remark. My understanding is that all the cases to which he referred were autopsied. That is the kind of work that is going to lead us closer to the solution of this question.

THE DANGER OF SYMPATHETIC OPHTHALMIA FROM THE USE OF THE CAUTERY IN TREATING IRIS-PROLAPSE

OTHER METHODS OF TREATMENT *

H. GIFFORD, M.D.
OMAHA

In 1897 Trousseau[1] reported three cases of sympathetic ophthalmia (two of his own and one of Kalt's) following the use of the galvanocautery in treating prolapse of the iris; and in the same year[2] I felt impelled by my own experience to second the warning given by Trousseau. Since then I have happened to notice the histories of seven cases of sympathetic ophthalmia in which the authors mentioned incidentally that a wound or an iris prolapse had been cauterized a suitable length of time before the outbreak of the disease in the second eye. These cases were reported by the following authors: Alexander,[3] Darier,[4] Alberti,[5] Dimmer,[6] and Fuchs,[7] who each report a case occurring after cauterization of an iris prolapse or a cystoid scar; and Cohn[8] mentions two cases from the clinic of Silex in which a wound was cauterized before the sympathetic ophthalmia broke out. Finally, Trousseau[9] again returns to the subject with the report of two additional cases of the sort and a renewal of his warning against the use of the cautery.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

1. Trousseau: Recueil d'Ophth., 1897, p. 249.
2. Gifford: Ophth. Rec., 1897, p. 673.
3. Alexander: Ophth. Klin., April 5, 1900.
4. Darier: Ophth. Klin., Aug. 5, 1900.
5. Alberti: Beitr. z. Augenh., v, 743.
6. Dimmer: Ztschr. f. Augenh., August, 1901.
7. Fuchs: Arch. f. Ophth., lxx, 469.
8. Cohn: Ztschr. f. Augenh., January, 1905.
9. Trousseau: Arch. d'opht., November, 1909.

Trousseau does not attempt to explain how the cautery favors the occurrence of sympathetic ophthalmia, but in following the subject for a number of years I have noted two communications which throw some light on the subject. Franz[10] has found as the result of experimentation that the sloughs produced by the use of the actual cautery in the abdominal cavity decidedly favor the occurrence of infection; and La Garde[11] discovered that, when the tissues are burned, tetanus can be produced by quantities of the tetanus bacillus which are quite harmless when introduced into incised wounds.

In the early days of my practice I used to regard the charred and dead tissue left by the cautery as an efficient protection against infection or reinfection, but for many years I have taken the opposite view, and when I have found it desirable to use the cautery, as in some cases of trachoma, I have carefully scraped away all the dead tissue and I am sure that this has been followed by less irritation than when the sloughs have been allowed to remain; and in some corneal ulcers after using the cautery I scrape away the slough and apply trichloracetic acid to prevent reinfection. Whether the influence of the cautery slough in favoring infection is due to its forming a favorable culture medium or whether it depends on the nature of the surface left when the slough separates, I cannot at present say; but that such an influence exists and that it should make us cautious in the use of the cautery for iris prolapse is, I think, undoubted. For certain prolapses, however, when they are so small and old that they cannot be seized and cleanly excised, the cautery is so convenient an agent of destruction that if it could be used safely it would be highly desirable to retain it in favor; and I believe that if the burnt and dead tissue be scraped away and the raw surface covered at once with a conjunctival flap all danger from its use can be avoided.

USE OF TRICHLORACETIC ACID

The use of a conjunctival flap, however, necessitates an operation which, slight as it is, we like to avoid if possible; and with this in view I have experimented for a year or so with the treatment of prolapses by trichloracetic acid.

This agent, the introduction of which into ophthalmology we owe to Bulsom, produces a slight eschar which apparently offers a very unfavorable culture medium for germs. The reaction following its use, whether in the eye or the nose, is practically *nil;* and a few applications to an iris prolapse cause the latter to disappear or to be covered with a thin layer of connective tissue which, it would seem, must prevent the penetration of germs into the eye. I have used this agent with the best of results in cases in which after a large destructive corneal ulcer a considerable area of iris tissue has been left exposed. In cases of this kind I have never been able to get a conjunctival flap to adhere to the iris tissue, but by the use of the trichloracetic acid I have produced smooth white non-irritable scars; and in one case in particular, in which a large prolapse in the upper quadrant of the cornea was already infected and the eye apparently in a desperate condition, I am sure that the acid was the only thing that saved it from destruction.

Incidentally I may remark that in all cases of infected wounds of the eye I apply the trichloracetic acid vigorously for several days in succession, and in this way have in some cases saved the eye when at first the outlook seemed hopeless. I regret to report, however, that my confidence in the absolute security which I believed this acid conferred on eyes with iris prolapse has been shaken by the following case:

History.—In the fall of 1908 I extracted, with a hook, a tough membraneous cataract from the left eye of a woman, aged about 50. A moderate amount of vitreous came with it; enough to interfere with a perfect reposition of the iris. The healing was smooth but an iris prolapse rather more than 1/16 inch in diameter developed at the inner angle of the wound. To this I applied trichloracetic acid four or five times, at intervals of three or four days, with the result that it disappeared entirely, leaving a smooth flat white surface almost indistinguishable from the other end of the scar. The patient left the city several weeks later with the eye free from irritation and possessing V. = 20/50 plus. The other eye was perfect, the extraction having been done largely for cosmetic purposes.

Subsequent History.—In the following September the woman returned, stating that some weeks after I had last seen her, that is, two months or more after the operation, the operated eye had become inflamed and a few weeks later the right eye followed suit; and in spite of treatment by a very competent oculist the vision of both eyes had been so much reduced that she could barely find her way about. I found the pupil of the left eye drawn high up and closed, V. = light, while in the right eye the pupil was secluded and nearly occluded, V. = fingers at four feet. Both eyes were practically free from irritation and there was no sign of the former prolapse in the operated eye. An iridotomy has restored useful vision to the left eye, but when in January, 1910, after a prophylactic course of moderate doses of salicylate, I performed an iridectomy on the apparently quiet right eye, the pupil promptly closed up with exudate.

This case is such an unusual one that I am not sure that I ought to place any blame on the trichloracetic acid; but I feel that I ought to mention it as part of the evidence before the jury, and the next iris prolapse which I treat I shall, after the use of the cautery or trichloracetic acid and scraping, protect with a conjunctival flap if it is possible; but if it is one of the large prolapses within the corneal area I shall treat it with trichloracetic acid.

In view of the large number of prolapses which we see that never seem to cause any irritation nor do any harm the question may well be asked why bother any of them. The case is parallel to the problem of prophylactic enucleation. We know that the majority of injured sightless eyes do not cause sympathetic ophthalmia, but some of them do; and so do some iris prolapses. I have seen sympathetic ophthalmia in at least six cases of untreated iris prolapse from comparatively slight wounds.

With regard to fresh traumatic prolapses that cannot be replaced we can all agree that there is no treatment like a clean incision, but in deciding whether or not a prolapse can be replaced one should not forget the method of indirect reposition advocated by Dunn[12] of Richmond, Va., and after him by Jameson.[13] The principle of Dunn's method is that, instead of trying to push the prolapse back through the original wound, it is better to make another opening at a distant point of the corneal margin and, with a spatula introduced through this, draw back the iris from the original wound. I can recommend this method heartily in fresh cases, having used it in one case with perfect success.

CONCLUSIONS

My own conclusions on this subject may be summed up as follows:

1. Fresh non-infected prolapses should be replaced, if possible; preferably by Dunn's method.

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[10] Franz: Abst. in Centralbl. f. Chir., 31, 1902.
[11] La Garde: THE JOURNAL A. M. A., April 18, 1903.
[12] Dunn: Arch. Ophth., September, 1907.
[13] Jameson: Arch. Ophth., January, 1909.

2. Prolapses which cannot be cleanly excised should, if possible, be cauterized and the area scraped and protected at once by a conjunctival flap.

3. On account of the danger of sympathetic ophthalmia no prolapse should be treated by a hot metal cautery, unless a protecting conjunctival flap can be made to adhere to the area cauterized; it is probably safer to let the prolapse alone.

4. In some cases of large corneal prolapses to which conjunctival flaps can be made to adhere with difficulty or not at all, the use of trichloracetic acid (and probably of various other chemicals) produces a firm nonirritable scar. Whether this method is entirely devoid of danger remains to be seen.

Brandeis Building.

ABSTRACT OF DISCUSSION

Dr. R. H. T. Mann, Texarkana, Tex.: I wish to emphasize the fact that I do not believe we yet realize sufficiently the use of the conjunctival flap in many of these cases. I think it is a method which should be used whenever it can be. It will grow in some of these cases in which you think it will not grow, and even a staphyloma may subside after the use of this flap. I have seen it very successfully used in many of these cases.

Dr. John A. Donovan, Butte, Mont.: After the experience of Dr. Gifford it is hard to say that the cautery is absolutely safe. I am still a firm believer in the cautery. Most of my cases are traumatic. Where the field of prolapse is large enough I have abandoned the method of simple cauterization. If it is large or protrudes I cut it off with the scissors or knife and then cauterize. There is one mistake in using the cautery. Most operators use too much heat and a too prolonged application. In a treatment by the cautery use little heat, quickly searing it, or dry or scorch it. I think it is a very important addition to the treatment and I use it to prevent infection. One point I make is to touch the edge of the cornea where it joins with the iris so as to try to get union between the cornea and the iris.

Dr. Edward Jackson, Denver: I should like to ask Dr. Gifford if he feels that the dangers of infection attend the use of the cautery in instances in which the iris is not involved. With reference to iris prolapse, while it requires a good deal of nerve in some cases, I feel that the best results, or at least as good a result as is attained in any other way, is attained by letting the prolapse alone. If the prolapse is large—and I have seen some large ones following simple extraction, from one end of the incision to the other—the scar swells out and it is six or eight weeks sometimes before it fairly begins to flatten down; and yet these scars in the end have been just as pretty and smooth scars and the pigmented iris tissue is better covered in than in some cases in which I had incised a part of the prolapse or touched it with the cautery or treated it in other ways. With an infected prolapse something must be done. I prefer to use nitric acid, which I find perfectly manageable. But where there is not some distinct infection of the prolapse the process of what might be called normal healing is just as much to be respected as the normal exudates in a wound are to be respected, and not disturbed with strong antiseptics. We have learned that strong antiseptic solutions do not promote normal and satisfactory healing; and I am inclined to look at prolapse of the iris in the same way. Unless there is distinct indication of infection I would not touch it with the cautery or with nitric acid, or anything else.

Dr. H. Gifford, Omaha: I did not enter into the details of the conjunctival flap because that has been done a great many times, although there is one feature of it which I pointed out in the article in Dr. Posey's book years ago; that is, you do not need to have two stitches. Simply dissect the flap up widely, pull the flap across and a single stitch some distance away from the prolapse will hold it. With regard to the question of danger of touching the cornea with the cautery, of course, I do not consider there is any danger of touching the cornea alone, for we all have to do it in corneal ulceration and will have to continue it, I suppose. The danger is in cauterizing the tissues connected with the uveal tract in which the germs of sympathetic ophthalmia vegetate. With reference to the question of leaving the prolapse alone, I sympathize with Dr. Jackson. I have seen lots of these prolapses persist for years without doing any harm, but every now and then an eye is lost from an uncovered prolapse, either from panophthalmitis of the injured eye or from infection and sympathetic ophthalmia. So I believe the greatest good can be achieved only by destroying all prolapses that cannot be excised, and if the cautery is used the spot should at once be protected by a flap.

With regard to Dr. Donovan's remarks, I agree with him that the cautery is the quickest and most efficacious means of destroying a prolapse, but if he continues to use it as freely as he does without covering the burned spots with conjunctiva I am afraid he will have a disagreeable surprise such as Trousseau and I have had.

THE INFLUENCE OF DIET ON THE CHYLE *

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CHICAGO

HISTORY OF THE SUBJECT

Opportunities to get pure human chyle in quantities sufficient for extensive chemical analysis have been exceedingly rare. In fact, a study of the literature back to the middle of the seventeenth century shows only 126 cases of the appearance of a milky fluid in pleural or peritoneal cavity.

These 126 cases fall naturally into two classes: (1) those in which the fluid was chyle, pure or modified, distinguished by the presence of free fat globules, minute in size and tending to rise to the top of the collected fluid as cream rises on milk; (2) those in which the fluid was milky in appearance, and contained fat, not in emulsion, but within fattily degenerated leucocytes and other cellular elements.

Senator[1] differentiated these two classes and designated them as ascites chylosus and chyliformis respectively. Osler[2] in 1900 differentiated a third variety of milky ascites which he called ascites lactescens, and whose milky appearance is due, not to fat at all, but to the presence of a large amount of globulin. It should be noted that the liquid in this case, while milky in general appearance, is rather opalescent and not difficult to differentiate from either of the two forms described above.

The study of these cases makes a chapter hardly less interesting to the physiologist than to the pathologist or the internist. In short, some of the cases, those of traumatic chylorrhagia, are of great interest to the surgeon, as well.

The literature has been collected by Bargebuhr,[3] by Shaw,[4] by Comey,[5] and by Boston.[6] The last author added the cases which have been described since Comey's bibliography, and corrected certain errors in the earlier bibliographies.

Of the 126 cases of ascites chylosus and chyliformis collected by Boston, something over half, or about 7 cases, have been found to be true chylous ascites, accord ing to the definition of Senator;[1] i. e., "cases in which from any cause, the presence of chyle is demonstrated in the peritoneal cavity."

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session held at St. Louis, June, 1910.

† Of the Department of Physiology, Northwestern Universit Medical School.

[1] Senator: Charité-Ann., 1883, x, 305.

[2] Osler: Modern Medicine, v, 502.

[3] Bargebuhr: Deutsch. Arch. f. klin. Med., li, 502.

[4] Shaw: Jour. Path. and Bacteriol., 1900, vi, 339.

[5] Comey: Boston Med. and Surg. Jour., Jan. 29, 1903, p. 11

[6] Boston, L. A.: Chylous Ascites with Eosinophilia, The Journal A. M. A., Feb. 18, 1905, p. 513.

In a vast majority of the cases of chylous ascites the cause of the escape of chyle is found to be a pressure of tumors on the thoracic duct or on the abdominal chyle duct, interfering with the free flow of the chyle along the vessel. If the obstruction is sufficiently great the vessel ruptures and the chyle pours out directly into the pleural or peritoneal cavity.

The thoracic duct may be occluded by blood-clots in the subclavian vein or by lymph-clots in its own lumen, or it may be gradually occluded by pathologic changes in its own walls, as in the case reported by Comey[5] of chronic lymphangitis.

Cases of complete stoppage of flow of chyle through pressure on the vessel or through disease of its wall may be followed by rupture of the thoracic duct, the receptaculum chyli, or of some of the lacteals.

Of such cases nine are reported prior to 1902, namely those of Morton,[7] Percival,[8] Lossius,[9] Winiwarter,[10] Cayley,[11] Kein,[12] Hoppe-Seyler.[13] Whitla[14] and Comey.[5]

Of special interest are the cases of traumatic chylous ascites, of which only seven are reported prior to my case. Two of these seven cases, those of Merklen[15] and of Bell,[16] while traumatic are clearly only secondarily so, as in the case reported by Merklen the chyle began to collect in the peritoneal cavity ten months after the accident, while in the case reported by Bell the chyle did not make its appearance till seven months had elapsed after the accident. In both cases, however, the chylous character of the fluid was amply demonstrated by the presence of free fat. In neither of these cases is it certain that the chyle vessels were ruptured; in fact, the evidence is strongly against it.

TABLE 1.—CHEMICAL COMPOSITION OF CHYLE

Determinations 1000 parts.

Determinations 1,000 parts	Wini-warter[10]	Quin-cke[18]	Hoppe-Seyler[13]	Whitla[14]	Merklen[15]	Osler[2] [cited]	Beebe[6]	Hall [Fat free]	Hall [Fat rich]
Reaction	Alk.	......	Alk.	Alk.	.....	Alk.	Alk.	Alk.	Alk.
Specific Gravity	1.012	1.016+	......	1.020	.....	1.007+	1.007+	1.007+	1.006
Water	910.49	......	940.7	940.85	975.0	940.+	975.0	970.80	961.70
Solids	89.56	......	59.3	59.15	25.0	60.—	25.0	29.20	38.30
Proteins	45.01	......	36.7	28.78	12.5	30.±	2.75	12.37	12.40
Fats	36.80	11.44	7.2	10.30	3.5	10.±	2.0	6.77	16.86
Sugar	0.20	......	......	2.10	.....	*	....	1.00	1.00 (?)
Salts	7.55	......	7.2	9.95	9.0	7.±	....	9.06	8.04
Miscellaneous	......	......	4.5	8.02	.....	....	1.0	....	......
Amount collected	Liters	12.8	......	72	11	....	....	9.7	7.7

* Present.

I have been able to find only five reported cases of primary traumatic chylorrhagia prior to 1908, when the preliminary report was made on the case from Dr. W. E. Morgan's Wesley Hospital service.

Chomel[17] reported, in 1728, the case of a woman aged 24, who suffered an umbilical hernia during parturition. That there was also a rupture of chyle vessels was evidenced by the "spontaneous opening and emptying of five pints of milky fluid." Spontaneous recovery is also reported.

Quincke,[18] about the middle of the nineteenth century, reported the case of a 50-year-old man who was run over by a wagon, suffering a fracture of a rib on the right side, evidently rupturing a lymphatic, as the right pleural cavity filled with bloody chyle. Puncture was resorted to on three occasions and 1,800 c.c., 3,000 c.c., and 1,000 c.c. of chyle withdrawn. On the twenty-first day after the accident the man died. At the post-mortem there were 7,000 c.c. of chyle removed.

Munson[19] reports the sudden death of an 18-year-old youth after a violent struggle in asphyxia. The postmortem examination revealed extensive firm clots of blood in the left ventricle, vena cava and subclavian vein. The lung was lacerated and the receptaculum chyli was ruptured and a few ounces of chyle were found in the peritoneal cavity.

Wilhelms[20] found the abdomen of a 6-months-old child who had suffered a paroxysm of *Stich-Husten,* filling with liquid. Puncture brought chyle. Subsequently ten punctures yielded several liters of chyle. The child died.

Eyer[21] reported the case of a man who suffered a fracture of several ribs in a railway accident. There were evidences of abdominal injuries. Finally a groin tumor, on being opened, poured forth a fetid substance that led to the diagnosis of fecal fistula. On the thirty-eighth day after the accident the man died. Post-mortem examination revealed a postpleural rupture of the thoracic duct. The contents of the duct burrowed between peritoneum and body wall as far downward as the groin, where it was opened. The bloody chyle had become infected and decomposed, which accounts for the mistake in diagnosis.

Before entering on the description of Morgan's case I wish to call attention to the chemical analysis of the chyle withdrawn in cases of chylous ascites and of traumatic chylorrhagia. Table 1 shows a few of the more complete analyses. The specific gravity varies between 1.006 and 1.040. The chyle is quite uniformly alkaline in reaction. The solids amount to from 2.5 per cent. to 6 per cent. Principal among the solids are coagulable proteins 1 to 3 per cent. and fat, 1 per cent. to 3 per cent. The fats show the widest range of variation. Sugar is usually present in small and fairly uniform quantities.

CLINICAL AND EXPERIMENTAL OBSERVATIONS

History of the Case.—Early in December, 1907, Dr. W. E. Morgan was called in consultation in the case of Anton S., a lad aged 13, who had been run over by a wagon on which he was attempting to get a "hitch." The hind wheel of the wagon had crossed the body at about the line of the diaphragm, the boy lying on his back on the pavement. The surgical aspects of the case present many points of interest which have been discussed by Dr. Morgan.[22] Of interest here is the fact that within a few hours after the accident the abdominal cavity began to fill with liquid. After the liquid had accumulated to an extent which caused a considerable distention, a needle trochar was inserted and several quarts of milk-white chyle wholly free from blood was withdrawn. Arrangements were made to bring the boy to Wesley Hospital as a charity patient and he was admitted Dec. 13, 1907. The physiologic importance of the case was recognized, and Dr. Morgan invited me to institute such experiments as I desired in the period during which the surgeons were deferring operation, awaiting positive indications.

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[7] Morton: 1705, cited in Van Swieten Commentaries, iv, 189.

[8] Percival: Essays, Medical, Physiological and Experimental, p 177.

[9] Lossius: Historia Anatomica Medica, i, 257.

[10] Winiwarter: Jahrb. f. Kinderh., xi-xii, 196.

[11] Cayley: Tr. Path. Soc., London, 1866, xvii, 163.

[12] Kein: Mém. Soc. de méd. de Strassbourg, 1881, xix, 2-52-57.

[13] Hoppe-Seyler: Physiol. Chem. (Hirschwald), 1881, p. 597.

[14] Whitla: Brit. Med. Jour., 1885, i, 1089.

[15] Merklen: Semaine méd., 1897, p. 181.

[16] Bell: Am. Med., 1905, p. 1861.

[17] Chomel: Mém. de l'Acad. de sc., 1728 [cited by Bargebohr].

[18] Quincke: Deutsch. Arch. f. klin. Med., xvi, 12.

[19] Munson: Med. Rec., New York, 1873, viii, 202.

[20] Wilhelms: Cor.-Bl. d. aerztl. Verein d. Rheinl., 1875, No. 14, p. 13.

[21] Eyer: Med. Rec., New York, 1891, xl, 122.

[22] Morgan, W. E.: Bull. Northwestern Univ. Med. School, June, 1909.

METHODS OF PROCEDURE

The fact that the patient seemed in a fairly normal condition, except for the leakage of chyle into the peritoneal cavity, and the natural consequences of such leakage, led me to institute a series of dietetic changes with a view to determining the influence of these changes on the chemical composition of the chyle poured out into the peritoneal cavity. The uncertainty of the time which would be at our disposal made it necessary that the observations be started immediately. The following plan was at once outlined: The observation periods were to be four days in length. It was planned to cut out all fat from the diet of the first period, so far as this was possible, leaving the carbohydrates and proteins undisturbed and in average amounts. The second period differed from the first in having a diet rich in fats; carbohydrates and proteins remaining the same. In Period 3 we returned to a fat-meager diet, rich in carbohydrates; proteins remaining average. In Period 4 we returned to a diet rich in fats, meager in carbohydrates; protein remaining average. Period 5 had a diet meager in fats, average in carbohydrates, rich in proteins.

In order to devise a fat-meager diet for the first period, we resorted to separated milk, cereals, bread without butter, rice without butter or cream, steak from which every visible vestige of fat had been cut away, and baked potatoes. Analysis of this diet showed that it still contained fat in the following amounts: 1,200 gm. of milk contained 18 gm. of fat; 500 gm. of bread contained 9.5 gm. of fat; 200 gm. of lean steak contained 7 gm. of fat; one egg contained 6 gm. of fat. Removing as much fat as possible from the diet, there still remained, according to the above figures, 40.5 gm., plus the amount in the oatmeal and rice, which was not determined.

All fat analyses of diet and chyle were made by desiccation at about 80° C., followed by extraction with ether, and evaporation of the latter, leaving the fats which were determined by weight.

The chyle was withdrawn at the end of the period in the first four periods. In the subsequent periods it was withdrawn at more frequent intervals. Every precaution was taken to prevent infection of the peritoneum, and throughout the whole series of observations there was no evidence that infection occurred. It was in order to avoid infection that the chyle was withdrawn by means of a needle trochar rather than through an open fistula. Had we adopted the open fistula plan, we could have collected the chyle for each day. As it was, we did not feel justified in using the trochar more frequently than the four-day periods. The chyle was caught in sterile liter flasks. Two cubic centimeters of formaldehyd were added to each flask, the flask sealed with a plug of cotton and placed in the ice-box. Two or three hundred cubic centimeters from each lot was kept out and subjected to an immediate analysis without addition of formaldehyd. The fresh chyle was subjected to both chemical and microscopical analysis, its specific gravity determined, its fat, protein and sugar determined. Fatty acids were also isolated, but as they appeared only in traces, the results have not been tabulated. The microscopic tests at no time showed more than normal proportion of leucocytes. We interpreted this, together with other facts, as indicating that no inflammation existed in the peritoneum. The chyle showed at all times an exceedingly minute division of the fat. On standing, the chyle separated into three layers—an upper fat emulsion, a middle opalescent layer and a flocculent sediment.

The feces were collected during each period and preserved in a ground-glass-top, museum jar. The fecal collection for each period was stirred and mixed until it seemed to be a perfectly homogeneous mass. Double samples of each lot were taken for analysis and analyzed especially as to fats, the ash also being determined, however.

In the general hospital routine the house physician made a careful analysis of urine and blood at least once during each four-day period. During some periods, however, several analyses and counts were made, particularly of the blood during periods when that seemed to be becoming depleted. Several differential blood-counts were made, but only one showed anything of apparent interest. The neutrophils only were greatly increased in number during the last period. The weight was also determined. There was no medication during the periods reported here until January 8, when evident anemia seemed to demand attention, and the patient was given Blaud's mass, 5 grains three times a day, with the results indicated under the appropriate period.

Data of the Periods I-VII

Period i.—December 14 to 17 (Four Days Inclusive)

Diet.—Meager in fat with average carbohydrates and protein: In order to remove as much of the fat as possible from the diet, the boy was put on separated milk, oatmeal and rice, bread, lean steak, baked potatoes, eggs; the latter, however, were removed from the list when it was found that the boy had an idiosyncrasy against them. One egg had been introduced into his first evening meal, but was kept down under protest and seemed to disturb him seriously for several hours. As stated above, this diet of the first period contained something over 40 gm. of fat.

Chyle.—This, withdrawn at the end of the period, weighed 3,021 gm., specific gravity being 1.007. We found it to contain 22.537 gm. of fat, which was 0.746 per cent. The protein estimated by determination of nitrogen through the Kjeldahl process was found to be 1.336 per cent., or 40.35 gm.; the sugar, a little more than a trace and not determined quantitatively.

Feces and Urine.—The former for the period amounted to 1,294 gm., whose fat content was 7.596 gm. The latter for the period was tested twice and found to be normal in both tests.

Blood.—Examined twice, and both examinations showed unexpectedly low red blood-corpuscle count, averaging 3,700,000; hemoglobin, 80 per cent.; white blood corpuscles, 14,000.

Weight.—73.5 pounds.

Period II.—December 17 to 21

Diet.—Rich in fat, carbohydrates and proteins remaining unchanged. The menu for this period consisted of lean steak of the same cut as the previous period, to which was added weighed amounts of beef-fat, samples being kept for analysis; cream and full milk in equal parts, samples being kept for analysis. To these fat-rich foods the usual cereals, bread and vegetables were added; butter, cream and beef-fat being used freely with all of these foods. Analysis of the samples showed that the boy received during the four-day period 364.7 gm. of fat plus an undetermined amount of fat in the cereals and vegetables, which would approximately equal the undetermined amount in the diet of the first period.

Chyle.—The amount was 3,690 gm.; specific gravity, 1.005. This was found to contain fats to the extent of 1.858 per cent., making a total of 68.56 gm. Protein determined as above showed 1.215 per cent., or 44.84 gm. for the period. Carbohydrates, a trace only.

Feces and Urine.—The feces were 791 gm. for the period, containing a total of 23.762 gm. of fat. Two tests during the period showed that the urine remained normal.

Blood.—The count showed 3,875,000 reds, hemoglobin 80 per cent., and 16,000 whites.

Weight.—After withdrawal of the chyle on December 21 was 70 pounds. All weights were taken as nude weights, the clothing being weighed separately and the weight deducted.

PERIOD III.—DECEMBER 21 TO 25

Diet.—Meager in fat, rich in carbohydrates, proteins remaining unchanged. The 800 gm. of bread contained 15 gm. of fat; the 200 gm. of lean beef contained 7 gm. of fat; 1,000 gm. of chicken-broth contained 3 gm. of fat; 1,200 gm. of separated milk contained 18 gm. of fat; 100 gm. of soda-crackers contained 9 gm. of fat. The fat was undetermined in the following articles of diet: Prunes, tapioca, sugar, gelatin, baked apple, sliced oranges, grapes, canned corn, potatoes, bananas. The total estimated fat was 52 gm.

Chyle.—The amount withdrawn was 5,180 gm. It showed a specific gravity of 1.007 and a fat content of 0.608 per cent., or 31.49 gm. for the period; protein, 1.1375 per cent., or 58.92 gm. for the period; sugar, a little over 0.1 per cent.

Feces and Urine.—The amount of the former was 1,100 gm. for the period, containing a total of 12.89 gm. of fat. Two examinations during the period showed that the urine remained normal.

Blood.—Daily examination of the blood showed that it had come back practically to its original condition, the average red count for the period being 3,650,000; hemoglobin, 80 per cent.; white blood corpuscles, 12,600. The differential count showed no appreciable departure from the normal condition.

Weight.—Sixty-three and one-half pounds.

PERIOD IV.—DECEMBER 25 TO 29

Diet.—Rich in fats, meager in carbohydrates, proteins remaining unchanged: In order to add the maximum possible amounts of fats to the diet, we resorted again to butter, cream, beef fat; cream and full milk were mixed in equal quantities. Bacon appealed strongly to the boy's appetite and that was added to the menu. All of these fat foods, together with peanuts, were carefully weighed, representative samples kept for analysis, and the fat ingestion for the period footed up 534.44 gm. Other foods in which fat remained undetermined were chicken soup, "diabetic" bread, lean steak, celery, parsnips, cauliflower, baked apple. Note that the above diet contains a minimum of carbohydrates. Potatoes were also given, but they were sliced thin and soaked two hours in water to remove a portion of the starch.

Chyle.—At the end of the period 4,061 gm. were removed. Specific gravity was 1.006. The fat was found to represent 1.514 per cent., or 60.932 gm. of fat for the period. Protein determined as before was present to the extent of 1.2761 per cent., or 51.82 gm. for the period. Sugar dropped to a meager trace.

Feces and Urine.—The former amounted to 1,275 gm. for the period, which contained a total of 44.17 gm. of fat. Two determinations showed the urine to be maintained at normal.

Blood.—The count on the twenty-ninth showed red blood-corpuscles, 2,700,000; white blood-corpuscles, 8,400. The differential count showed no appreciable departure from that of the previous period in the proportion of the different kinds of white blood-corpuscles.

Weight.—Seventy pounds.

PERIOD V—DECEMBER 30 TO JANUARY 2

Diet.—Meager in fat, carbohydrates average, rich in protein. In order to reduce the fat to the lowest point possible and yet to increase the proteins to the highest point possible the following diet was chosen: Separated milk, 4,000 gm.; fat content, 60 gm.; lean beef, 760 gm.; fat, 26.6; beans (dry weight), 336 gm.; fat, 6.7; bread, 300 gm.; fat, 5.7; soda crackers, 110 gm.; fat, 9.9. The total fat content, so far as determined, was 108.9 gm. Besides these staple articles of diet there were baked apples, bouillon, potato, rice and tomatoes.

Chyle.—The chyle in this period was taken in two portions. At the end of the first day 1,006 gm. were drawn. At the end of the period only 504 gm. could be obtained. The analysis of this chyle demonstrated a fact which had been suspected for a number of days, namely, that in drawing the chyle at the end of the period and only once during the period we were not dividing the chyle to correspond with the diet period, but that allowance should have been made for a lag of twelve hours in the chyle period; i. e., the chyle of Period IV, when the patient was on a fat-rich diet, would not contain all of the fat of that period. The period ending at noon and the chyle drawn from 3 to 4 o'clock in the afternoon would not represent all of the fat given in the last meal, but the fat taken at the last meal of the fat-rich period would continue to appear in the chyle for a number of hours. This thing was noted, however, in Period V: that the fat represented 1.5 per cent. in the first lot of chyle drawn at the end of the first day of the period or 15.23 gm. for the first day, which is just about one-fourth of the amount of the previous four days on a fat-rich diet. The last three days of Period V yielded not only a smaller volume of chyle, but an opalescent lymph-like chyle with less than 0.1 per cent. fat, the actual percentage being 0.094, or 4.29 gm. of fat in three days. A mixture of a few cubic centimenters of Portion 1 with a proportional amount of Portion 2 yielded a mixture strikingly similar in appearance to the mixtures drawn off in Periods I and III on a similar diet. From these observations it would seem certain that more distinctive modifications of the chyle would be noted in the different periods if the chyle period had been set twelve hours later than the diet period. This could have been easily arranged by ending the diet period with the evening meal and drawing the chyle next morning before breakfast.

Feces and Urine.—During this period 2,688 gm. of feces were collected which contained 50.105 gm. of fat. The urine remained normal throughout the period.

Blood.—Red blood-corpuscles had risen in number to 2,845,000; white blood-corpuscles numbered 8,600.

Weight.—Seventy-two and one-half pounds.

PERIOD VI—JANUARY 3 TO 10

Diet.—Conference with the surgeon at this point in our experiments led to a complete change in the régime. It was suggested by Dr. Morgan that we try nutrient enemata for a period of one week. An enema consisted of one peptonized egg plus peptonized milk, quantity sufficient to make 4 ounces. These enemata were alternated with normal saline solution in 6 to 8 ounce quantities every two hours. No liquid was permitted to pass into the stomach. The mouth was rinsed out with cool water whenever the patient desired, but no water was swallowed. Under this treatment the lad suffered a good deal of discomfort through lack of nourishment, apparently, and what surprised the surgeons and others as well was the fact that apparently no liquid was collecting in the abdomen. At no time during the week did there appear to be any collection of fluid in the abdomen and at the end of that period the peritoneal cavity seemed so completely free from liquid that it was decided not to insert the trochar needle. Analysis of the food fats showed that the patient had received 96.606 gm., while only 2.970 reappeared in the rectal flushings, so that 95.637 must have been absorbed from the rectum and no portion of this was ever regained from the chyle.

Blood.—The blood during Period VI seemed progressively to become depleted until on January 9 we found the red blood-corpuscles, 2,150,000; white blood-corpuscles, 12,400. At this point the pallor of the patient became so intense that it was decided to begin the administration of Blaud's mass, which was given in 5-grain doses three times a day. Further data regarding the blood will be given in the next period.

Weight.—This had fallen to 62 pounds.

PERIOD VII—JANUARY 10 TO 15

Diet.—The complete cessation of the flow of chyle into the peritoneal cavity during the period of nutrient enemata led us to return to a general diet, especial richness in butter fats being the only distinction from the common diet. The patient was allowed to have bread and butter, coffee with cream in it, creamed potatoes, buttered toast, cream toast, rice with butter and sugar, whole milk, cream tomato soup, fruits. He was taken out of bed and allowed to exercise in a wheel chair, sitting up and wheeling himself.

Chyle.—Careful daily examination revealed no appearance of chyle in the peritoneal cavity.

Urine.—This was examined daily and continued normal.

Blood.—Under the influence of the changed conditions the blood began a gradual regeneration and on January 13 showed red blood-corpuscles, 2,245,000; white blood-corpuscles, 13,600. By the 16th there were reds, 2,825,000; whites, 13,400. On the 18th, while the general appearance of the patient had remarkably improved, there was a very marked change in the blood—the red corpuscles had risen to 3,216,000, accompanied by a marked improvement in the patient's color; however, the white corpuscles showed a sudden rise to 22,500. On the following day there were 24,000 whites, which seemed to be the maximum, and from which they progressively went back to the normal on January 25, on which date the boy left the hospital apparently well.

RESULTS TABULATED AND DISCUSSED

TABLE 2.—SHOWING AMOUNT OF FAT IN DIET AND CHYLE

Periods	I.	II.	III.	IV.	V.
December, 1907	14-17	18-21	22-25	26-29	30-2
	Gm.	Gm.	Gm.	Gm.	Gm.
Diet, fat	40.50	364.73	52.20	534.44	108.92
Chyle, fat	22.54	68.56	31.49	60.93	a.15.23 b. 4.29
Feces, fat	7.59	23.76	12.89	44.17	50.11
Excess	10.37	272.41	7.82	429.34	49.29

TABLE 3.—SHOWING PER CENT. FAT IN DIET AND CHYLE

Periods	I.	II.	III.	IV.	V.
December, 1907	14-17	18-21	22-25	26-29	30-2
Diet, fat	Meager	Rich	Meager	Rich	Meager
	%	%	%	%	%
Chyle, fat	0.746	1.858	0.608	1.514	a.1.50 b.0.094
Feces, fat	0.587	3.004	1.171	2.154	1.868

Tables 2 and 3 show the principal facts derived from the study. That increased food-fat should lead to increased fat in the chyle is a result to be expected. This result is much more clearly marked in the percentages as shown in Table 3 than in the actual quantities as shown in Table 2. It is noticeable from these tables that a considerable portion of the ingested fat was lost by way of the feces.

More important, perhaps, than either of these facts is the discovery (Table 2) that there is a considerable portion of the ingested fat unaccounted for in that recovered from chyle and feces. During the period of observation there was no opportunity to strike a balance between income and outgo of fat, as the analyses for Period I were hardly completed before we were collecting material from Period V. Therefore it was not discovered until weeks later that there was a large balance unaccounted for in chyle and feces.

The first question that occurs to one in looking over these results is: What became of this excess of fat? The answer seems obvious, namely, it must have been absorbed. In Period II, the boy must have absorbed 272 gm. of fat and in Period IV he must have absorbed 429 gm. An amount of absorption not to be ignored went on even during the periods when the patient was receiving a diet meager in fat. The next question which arises is: Was the fat absorbed by way of the portal system or by way of the lacteal system? We have been taught that all of the fat is absorbed by way of the lacteal system. If all of the fat went through this system in the case in question, what were the mechanical conditions that controlled the case? Was the receptaculum chyli ruptured? Was some smaller chyle vessel ruptured? If the receptaculum chyli was ruptured, was the leakage at the point of rupture modified by intra-abdominal pressure? One can easily conceive a condition in which the accumulating chyle would bring intra-abdominal pressure up to a point where it balanced the intralacteal pressure. When this point is reached one can conceive that newly absorbed chyle would as easily pass on through the thoracic duct as out into the peritoneal cavity. I believe that this is what actually took place.

In the procedure described above as little change as possible was made in the ingested proteins during the first four periods. During these periods the percentage of protein in the chyle varied through very narrow limits, as follows: Period I, protein 1.335 per cent.; Period II, protein 1.215 per cent.; Period III, protein 1.137 per cent.; Period IV, protein 1.276 per cent.; Period V, protein 1.866 per cent. According to the original plan of procedure Period V was to have a menu rich in proteins, while Period VI was to have a menu meager in proteins. Glancing at the protocols of the periods given above, the reader will note that at the beginning of Period VI the original plan was radically departed from and the nutrient enemata were introduced; it is interesting to note, however, that during the four periods when the proteins remained as little changed as possible, the percentage of proteins present in the chyle varied within 0.1 per cent. of the average, while the percentage of proteins present in the chyle during Period V made a sudden increase amounting to over 0.6 per cent. This cannot be a simple coincidence; the increased protein of the chyle must have been caused by increased protein in the diet.

One would seem to be justified in concluding that proteins are in part absorbed through the lacteals.

Turning now to Period VI and glancing through the protocol of that period, one will note a marked change, no less surprising than gratifying, in the condition of the patient, especially with respect to his principal symptom, the leaking of chyle into the peritoneal cavity. From the hour that the patient ceased to take food and drink by way of the mouth and received all nourishment through nutrient enemata, the appearance of chyle in the peritoneal cavity ceased. If any further proof than those already given above were necessary to demonstrate that the appearance of chyle in the peritonal cavity was due to leakage from the lacteals, this sudden cessation of its appearance would furnish that proof. The internal pressure in the lacteals being removed, the edges of the ruptured vessel could fall together, come into apposition and the healing process could proceed rapidly. At the end of a week this process had proceeded so far as to hinder any subsequent leaking when the general diet by way of the mouth was resumed.

The most noticeable physical change in the patient during the sixth and seventh periods was the deterioration of the blood, the red blood-corpuscles being noticeably decreased. Note that the decrease in the red blood-corpuscles, however, preceded by about ten days the increase in the white corpuscles. These two changes in the blood were probably altogether independent of each other and due to entirely distinct causes. The depletion of the red blood-corpuscles in the latter part of the sixth period was unquestionably due to the small amount of nourishment absorbed from the rectal feedings. The introduction of the egg into these feedings was with the definite purpose of introducing a requisite amount of iron. While the egg seemed to be absorbed, the red blood-corpuscles and hemoglobin, nevertheless, were greatly decreased. From the day on which we began to administer the Blaud's mass the red blood-corpuscles and the hemoglobin began to pick up until they reached the normal within about ten days.

I account for the improvement of the patient during the time of rectal feeding on purely physiologic grounds. I believe that, inasmuch as the flow of chyle progressively decreased in amount from the third period, Nature was probably throwing out a mass of adhesions across the ruptured chyle-vessel. As soon as the receptaculum chyli was relieved of pressure there was a rapid closure of the wound. As soon as we put the patient on hospital diet, his recovery was "by leaps and bounds."

The sudden increase of white blood-corpuscles led those in attendance to suspect a possible infection and the patient was very carefully looked over and watched for several days, but no rise of temperature or other symptoms suggesting infection appeared and the white blood-corpuscles returned progressively to the normal, which they reached before the patient left the hospital.

CONCLUSIONS

1. It is suggested that we recognize a special subclass of ascites chylosus which might properly be called "traumatic chylorrhagia," whose diagnostic characteristics would be, rapid collection of chyle, pure or tinged with blood, immediately following the injury.

2. The fat content of the chyle varies greatly with the diet; the protein varies moderately, while the sugar varies only slightly. From these facts I believe that we are justified in assuming that not only are the fats absorbed by way of the lacteals, but the proteins also are in part absorbed by way of the lacteals. With equal force it may be said that the sugar is not absorbed by the lacteals, but the trace uniformly found is that which is incident to tissue fluids generally and gets into the thoracic duct from tissue lymph-vessels.

3. I would suggest the following physiologic method of determining whether or not; in cases of traumatic chylorrhagia, all, or only a part, of the chyle is escaping: After a fast-day give by mouth a one-day diet rich in fat; determine fat in diet, in chyle, and in feces. If that found in chyle and feces falls appreciably short of that exhibited in the diet, one may conclude that not all of the chyle is escaping. The smaller the proportion of escape, the better the prognosis.

4. In cases of traumatic chylorrhagia experience in the case of Dr. Morgan suggests nutrient enemata, and a waiting for positive indications before surgical interference is undertaken.

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THE DEPENDENCE OF NEUROLOGY ON INTERNAL MEDICINE

A PLEA FOR THE ESTABLISHMENT OF NEUROLOGIC HOSPITALS, AND OF NEUROLOGIC WARDS IN GENERAL HOSPITALS*

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The practice of establishing institutions for special research, with endowments sufficient to secure them from the motives which influence the conduct of establishments on a commercial foundation, is rapidly gaining substantial recognition in America. We have had no war indemnities applicable to scientific purposes, but fortunately we have scores of wealthy men and women who are showing themselves disposed to lay those financial foundations which must henceforth underly the upbuilding of the natural sciences. They have initiated a movement which has already done more for us than herald a coming greatness. They have stimulated interest in medical progress, both in the profession and out of it, and already practical results are at hand.

NEUROLOGY NEGLECTED

Our achievements in surgery, in medicine, in public hygiene, in the widening scope of medical education, are all products of the spirit of inquiry which is fostered in the endowed laboratory; and such laboratories are springing up everywhere. But while the land, throughout its length and breadth, is preparing, as it were, for the responsibilities of leadership, one branch of medicine has been accorded no opportunity of sharing in the general progress. This branch is neurology. There seems to have been no thought of providing for its future, and its place in America is about what it was twenty-five years ago. Neither laboratories nor hospitals are being endowed in its favor. In all America there is scarcely a general hospital with neurologic wards worthy of the name, with the exception of a few hospitals and inaccessible city almshouses in which cripples and dotards are crowded together under the care of untrained housestaffs without laboratory facilities. Magnificent endowments almost yearly further the advances in surgery, medicine, and psychiatry, but neurology is left to take care of itself. Few nurses receive special training in nervous diseases; the objective teaching of students is limited chiefly to ambulatory cases. The profession who teach them, having no hospital patients of their own, can demonstrate only such patients as are able to walk to the clinic. In the recognition of brain abscess, meningitis, acute intoxications and injuries of the nervous system, the student either goes uninstructed, or else gets his instruction from men neither particularly interested nor particularly versed in these subjects. Hospital section-teaching, the most valuable of all modern teaching methods, is practically unknown in nervous diseases. The clinical facilities of the professors of neurology are not much better than those of the students. Without wards, without laboratories, without means for the continuous daily observations of patients, the holders of these chairs cannot obtain the intimate knowledge of disease, and the stimulus to investigate it, which is necessary to keep them abreast of modern progress.

In most large cities the general hospitals appoint what is known as a consulting neurologist. This incumbent may or may not be a member of the medical board. He is admitted to the wards by invitation and on sufferance; and such advice as he gives may be acted upon or not, in accordance with the whim or acumen of the attending physician or surgeon. No house officer is accredited to him, and he can follow a case only by extreme effort, and, when all is over, he is permitted to utilize it for scientific purposes only in the event of the attending physician or surgeon not wishing to make use of it himself. He is excluded from the consecutive observation and the scientific study of the metabolic diseases which underlie so many functional nervous affections.

NEUROLOGY AS A SPECIALTY

One cannot soberly consider these facts without being confronted with two important questions: Is neurology a legitimate specialty? If it is, what must be done, not only to advance it, but to enable it to hold its place? The answer to the first question is certainly affirmative. Ever since the publication of Erichsen's book on spinal injuries, it has become every year more obvious that nervous diseases require men of special equipment, judgment and inclination to interpret them correctly. It is more special in study and practice than any of the recognized subdivisions of surgery; just as special and far more extended than opthalmology or otology. So thoroughly has it been recognized as a field of activity *sui generis* that no argument on the subject seems necessary. Its individuality being granted, the next question is, Where shall we turn for successors to Duchenne, Lockhart Clarke, Romberg and hosts of other pioneers? Not to surgery surely. For though men like Horsley and Cushing have advanced neurology enormously in certain directions, their work has been and must be too circumscribed to advance neurology as a whole. Neither can we hope, in America at least, for help from internists. Out internists seem to shun these important problems, and often enough boast of their ignorance of them. The American Neurological Association has numbered not more than half a dozen internists in the past ten years. Dr. Charles L. Dana is the one man familiar to us who, in charge of a large general hospital service, has cut his name deep into neurologic history.

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

NEUROLOGY IN EUROPE AND IN AMERICA

In Europe the position of the neurologist is quite different from his position with us. There neurology is looked on as an integral department of internal medicine; and those who aim to gain entrance into the ranks have had not only prolonged training in internal medicine, but they evidence their continued interest by working at it in the hospitals, and teaching it in the universities. The medical clinics of Germany have been presided over by men whose greatest fame has come from their neurological contributions. Friedreich and Erb, of Heidelberg; Nothnagel and Strümpell, of Vienna; Schultze, of Bonn; von Leyden, of Berlin; Lichtheim, of Königsberg, leaders in neurology, all were, or are, directors of the medical clinics in their respective cities. And what is true of Germany is also true in a large measure for France, Great Britain and other European countries. Witness, for instance, the contributions to internal medicine and pathology of Trousseau, Charcot, Marie, Byrom Bramwell, and of Gowers, to name only a few; or if it is necessary to enumerate other writers, the contributions that have been made by Hasse, Kussmaul, Leube, Sahli, Rumpf, Brissaud, Grasset, Head, Wyllie, and other teachers of internal medicine. Not only do their systematic treatises of medicine reveal their mastery of the intricacies of neurology, but their individual discoveries must be mentioned in headlines when the history of neurology is written.

But what is to become of neuropathology in America, where neurology and internal medicine are distinct, and where practically all the laboratories and wards are controlled by men who do not investigate nervous cases and are closed to those willing and capable to work in this field?

The answer is not far to seek. Neurology must fall behind and cannot take its place in the coming American revival. The writing is already on the wall. We can claim no great achievement in the past ten years. American neurologists do not obtain the intimate experience with acute nervous diseases which belongs by right to the house physician in the Queen's Square Hospital in London, and we cannot hope, under present conditions, to produce men of accurate knowledge such as have made many a small German town famous.

American neurology is not only at a standstill, but its sphere is constantly being curtailed. The American Neurological Association this year refused to take part in the discussion on serum therapy at the Congress of American Physicians, on the ground that "it was not germane to neurology." Why not be frank about it and admit that neurologists have never had the opportunity of judging the effects of serum therapy on the nervous system? Instead of neurology having its share in the progress of the sciences concerned with bacteriology and with nutrition, the diseases it once claimed are one by one being taken from it. Exopthalmic goiter, a nervous disease if there ever was one, is more and more rare in neurologic clinics. As the neurologist has neither beds nor laboratories, the psychoses and neuroses with gastric symptoms have entirely passed from his hands and have lost their names. Under the mask of gastroptosis, mucous enteritis, and achylia, the patients are subjected for years at a time to the pernicious suggestions connected with local treatment.

A WIDER HORIZON IN NEUROLOGY

It is partly our own fault. During the formative period of our specialty a few years ago, the American neurologist prided himself on being a neuro-anatomist *par excellence*. To make cerebral localizations, to designate diseased tracts, to distinguish between organic and functional diseases constituted his chief occupation. The anatomic period has reached its zenith. To-day there is a wider horizon.

Nervous disorders and nervous phenomena are so directly dependent on and so intimately associated with derangement of metabolism, diseases of the viscera and ductless glands, to syphilis and other infections, that it is foolish to attempt to make an approximation of the pathogenesis of these symptoms unless the physician is competent to investigate and detect such pathologic states or intelligently to criticize the reports of trained men working with him. And then that great wilderness of pathology, the psychoneuroses—what opportunity is furnished us to study them intelligently and thoroughly in this country? A hurried interview in the out-patient department, where neither the environment nor the facilities favor the slightest revelation of the soul, then the patients disappear into the maelstrom of Eddyism, quackery, and the commercial sanatorium.

We are not urging a wider field for the neurologist than that of neuro-anatomist without taking into account human limitations. We recognize the time-consuming requirements of physiology, ~~of anatomy~~ and of special clinical investigations of the modern neurologist. We do not expect to see the neurologist, except perhaps when working at some special problem, an expert in fevers or in abdominal tumors. But we know that we are right in protesting against the narrow specialism into which he has been crowded. Unless the physician who professes to interpret nervous disorders is skilled by daily practice in making physical examinations, unless he is permitted to become familiar with the personalities of his patient through daily contact, he cannot attain that which he should attain, namely, the highest type of physician. The only way he can hope to develop such skill is in the wards of a hospital. In these wards he shall have the same facilities for investigating disease as his colleague whose inclination leads him to concentrate his clinical acumen on disorders of less noble viscera than the brain and spinal cord. There he shall have the opportunity of calling to his aid pathologist, cytologist and chemist, who shall work under his direction, and he shall avail himself of the opportunities which such service gives to study the personality or soul of his patient, without a knowledge of which therapy will always remain a barren field.

NEUROLOGIC HOSPITALS DEMANDED

Until general hospitals have neurologic wards with independent staffs, or until neurologic hospitals shall be established in every metropolitan city, we cannot hope that neurology will take the place in medical science that it deserves. We appeal to the profession to establish such services.

In New York we have organized and put into operation such a hospital, and with the hope that a brief description of its scope and organization will stimulate and encourage others, we venture to describe it briefly.

ORGANIZATION OF THE NEUROLOGICAL INSTITUTE

We arbitrarily chose three men who were responsible for the medical organization, development and direction. We readily secured a board of directors made up of men well known in business and in philanthropy—New York's first citizens. We were fortunate in finding a building adequate for our purposes, which had been constructed as a training-school for nurses and used later as a private hospital. The sum of twenty-five thousand dollars sufficed to make the necessary changes and to install the equipment for hydrotherapy, electrotherapy, Zander apparatus, electric superheated air apparatus, occupation rooms, roof-garden, clinical and chemical laboratory and autopsy room. Complete operating, sterilizing and anesthetizing rooms were already in existence. The building was subdivided into three parts—wards—with accommodations for forty patients; semi-wards, with accommodations for twenty patients, and twenty private rooms. The first floor of the building is devoted to the out-patient department and the therapeutic department. Here patients applying for relief are examined by the attending physicians and by salaried assistants working under them, and those whose symptoms require further study and interpretation are sent into the hospital, while those whose disorders can be satisfactorily treated in the various therapeutic departments are referred thither. Each of these therapeutic departments is under the immediate direction of physicians, and the treatment is administered by salaried assistants. In addition to diseases of the mind and nervous system, metabolic and nutritional disorders such as gout, rheumatism, arthritis, diabetes, etc., are received and treated. Other diseases are referred to the services elsewhere of the medical staff and the consultants.

The second and third floor of the hospital are devoted to the wards and semi-wards. The price of the beds in these wards, inclusive of everything, is $15 a week. Any member of the medical board may remit any part, or all, of this amount in individual cases, and about one-half the patients pay nothing. In the semiprivate wards, patients pay from $15 to $25 a week. The private rooms are reserved for patients of the physicians connected with the hospital. The revenue obtained from these rooms materially helps in meeting the expenses of maintenance. The sixth floor is devoted to the chemical and pathologic laboratory, the operating-room, the clinical and psychologic laboratory, and to quarters for the house staff. The laboratory is in charge of an expert chemist and microscopist who is paid a salary of $2,500 a year. The house staff consists of six physicians, three interns and three externs, all of whom are salaried. In addition to this staff, we have the assistance of special consultants in neurology, internal medicine and the various specialties, and an attending surgeon and an opthalmologist, both well known for their achievements in neurology.

At the end of the first six months of the Neurological Institute's existence nearly two thousand new patients had been examined in the out-patient department and upward of three hundred patients had been admitted into the hospital. It has been no uncommon thing to give from sixty to seventy hydriatic treatments in a day; and four massage operators, two electro-therapists and two teachers of exercise and educational movements are constantly employed. The present building, which, it was at first thought, would long be adequate to meet the demands put on it, has already been shown to be entirely inadequate. The best evidence that such a hospital was needed, and that it meets a want that was urgent, is furnished by the reception it has received.

We propose soon to establish a country branch, conducted on the sanatorium principle, to which patients can be transferred from the hospital as soon as their diseases have been adequately interpreted. In the country only is it possible to carry out all of the disciplinary measures that make for the restoration of the diseased personality, the disordered functions, and the perverted metabolism, which these patients always have.

The establishment of the hospital on a working basis has necessitated attention to so many practical details that as yet we have been unable to plan the scope and equipment of the experimental and pathologic departments. These will by no means be forgotten, as we have from the outset regarded them as the important features of the institute.

THE STATE CARE OF THE INEBRIATE *

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Although drunkenness is generally considered a misdemeanor, its association with criminality and criminal procedure has given the public the impression that the drunkard, if not a criminal in a legal sense, is so closely allied to these delinquents that the measures applicable for the control of the criminal can be consistently used in the management of the inebriate. The impracticability of such methods is recognized by those familiar with the varied types of inebriety.

Credit must be given to the judiciary and particularly to the various probation commissions for the heroic efforts which they have made to formulate some satisfactory method for dealing with the drunkard. They have recognized that the drunkard has an individuality, but owing to the diversities of the types and lack of facilities for studying these cases they frankly acknowledge their helplessness and are ready and willing to cooperate with the medical profession in any reasonable way. Massachusetts with its 90,000 arrests for drunkenness in 1909 is certainly a strong appeal for the inauguration of some plan which will individualize, differentiate and care for the habitual or pathologic inebriate.

INEBRIETY PATHOLOGIC—CLASSES

The term pathologic as applied to inebriety is expressive and eminently practical. For clinical purposes pathologic inebriates can be conveniently divided into three classes. The first group comprises men or women originally of normal health but who, through overwork, emotional stress and business reverses, have lowered

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* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

their power of resistance. With frequent indulgence in stimulants the patient becomes powerless to discontinue his habit. This is considered to be the most curable class of pathologic inebriates. A second group considers the periodical drunkard or dipsomaniac, people ordinarily temperate, or even abstinent, who at certain periods yield to an obsession of stimulation. The third group comprises the defectives and degenerates among drunkards. Alcoholism of the patient or of his parents may in some of these cases have brought on directly or indirectly the impaired mental and physical condition, but it is equally true in other cases that imbecility, insanity and other forms of degeneracy have preceded and have been responsible for the excessive use of alcohol. The physicians in charge of the Massachusetts correctional institutions are inclined to assert that the large majority of habitual drunkards in their care, are men of less than normal mentality.

SUMMARY OF EIGHT HUNDRED CASES

Institutional statistics have proved that a predisposing cause can be almost invariably found in the pathologic inebriate. The clinical study of approximately eight hundred cases of inebriety at the Foxborough State Hospital during the past two years is my justification for the following summary. These conclusions may be considered as an attempt to establish a clinical entity for inebriety.

1. Inebriety is an expression of nervous weakness or nervous instability; used in its simplest sense it could be called a psycho-neurosis, many cases showing symptoms which are found in neuresthenic states and allied conditions. Addiction to alcohol is a symptom of an unstable nervous system and the contrary view expressed by the laity is not justified by clinical observation or experience.

2. The exciting causes of inebriety are of a physical and psychic origin. Given a neurotic subject crises may be precipitated by any marked departure from the ordinary routine (psychic) or by any disturbance of organic nature (physical).

3. Inebriety is prone to develop as a frank case at the critical epochs of life, namely, during pubescence, adolescence or involution. Developing during involution it is generally the effort of an individual to maintain his productive power by recourse to artificial stimulation. The frequent inception of inebriety at these periods suggests an analogy to the psychoneuroses.

4. Inebriety being an expression of neuropathy or psychopathy, may be preceded or accompanied by a multiform nervous syndrome; thus each case is essentially different.

5. The heredity element in inebriety is considerable and is undoubtedly a powerful predisposing cause. A history of decided intemperance in the parents existed in over 40 per cent. of our cases, while 15 per cent. gave a history of defective ancestory, insanity, neuropathy, drug addiction or tuberculosis being present on the maternal or paternal side.

6. Approximately 5 per cent. of our cases showed preexistent mental symptoms which could be differentiated. Some of these were distinct cases of psychasthenia; others were of the milder forms of manic depressive insanity.

We feel warranted in corroborating the statement made by others that an inherited neurotic or psychic tendency is present in a considerable number of inebriates. Many of these cases admit vagaries of conduct and peculiarities during pubescence and adolescence, showing clearly neurotic or psychopathic conditions which have antedated the alcoholic manifestation. We venture to say that our future study will support these conclusions.

INDIVIDUALIZATION IN TREATMENT

The necessity for individualization and differentiation in cases of drunkenness is made more evident if we inaugurate any method of treatment. It seems unnecessary to say that such differentiation should be controlled and directed by the medical profession. The successful treatment of inebriety depends on the accurate discrimination and individual consideration of cases. These conditions can be more satisfactorily brought about in institutions under state supervision and control.

The defects in existing methods of care of the drunkard, which methods are in great part criminal, are recognized in Massachusetts. Her experience may be justly considered to be similar to that of other states. While release, suspended sentence, probation and payment of fine while on probation, is an ideal method in some cases, it can be said without fear of contradiction that imprisonment for drunkenness and non-payment of fine are futile as a method of reform and useless as a means of protecting the public. The large number of recidivists in alcoholism bears testimony to this assertion.

The habitual drunkard is omnipresent and resistive to the ordinary methods of treatment of reformatories. R. W. Brenthwaite, in the report of the inspector, under the inebriate's acts, 1910, expresses this clearly when he says that owing to educational measures and popular agitation, there has been a considerable and progressive improvement in the general drinking habit of the nation. The drunkenness that has been rendered less common in England is the occasional vicious excess of the man who can remain sober if he will. The large majority of the population, owing to educational measures, are now moderate drinkers who rarely get drunk, a case which is apt to engender a feeling of satisfaction until we look below the surface and observe the army of habitual drunkards which may be properly termed pathologic inebriates. This also emphasizes what I believe every medical man can verify, that it is by no means clear that any real advance has been made toward the suppression of habitual drunkenness.

The increasing prevalency of drunkenness is responsible for the concerted movement for the care and treatment of inebriates in England some thirty years ago. They have devoted time and money to the elucidation of this problem. At the present time there is under consideration progressive legislation which will increase the usefulness of their methods. Australia, Germany, Switzerland, Hungary and Denmark have laws which provide for the care and treatment of the inebriate. Recent correspondence with these countries shows that they are making steady progress and that the authorities are keenly alive to the fact that state and municipal care of the inebriate is not only a reform measure but is of decided economic value.

The need of state care of the inebriate was almost simultaneously recognized in the United States. Massachusetts in 1893 established a hospital exclusively for the treatment of the inebriate. Iowa and Minnesota have established similar institutions and in many states provision has been made for the compulsory commitment of inebriates to state institutions. During the past year many states have appointed committees for the investigation of drunkenness and with power to advise on conditions and remedies. Maryland, Michigan, Connecticut, Ohio, Indiana, New Jersey and New York are actively concerned in such investigation. Pennsylvania is engaged in this reform and undoubtedly will eventually succeed in carrying out the purposes of the bill so actively championed by her medical profession. New York City has recently passed a bill which provides for the care and treatment of the inebriate; the proposed scheme is perhaps the most elaborate which has thus far been advanced and its inauguration will be looked for with interest. New Jersey, although meeting with reverses in her attempt to secure state care, is hopeful of success and has been conducting a good publicity campaign.

CONSIDERATIONS OF CURE

When we consider the permanency of benefit from institutional treatment we must remember that inebriety is a chronic disease, and bearing in mind our conception of inebriety, namely, that it is a state of nervous weakness plus a habit in which the patient has a graded responsibility, we can readily appreciate that the word "cure" must be used relatively and that the condition which we call inebriety is subject to the same inconsistencies which we find in many cases of functional nervous disorder. When considering the benefit which may result from institutional treatment it is necessary to consider the type of inebriety, the time of abstinence, and to compare the man's present mode of living with his daily habits prior to his admission to the hospital. This plan has been carried out when studying those discharged from the Foxborough State Hospital. I am not prepared to give statistics on"cure" but I can conscientiously say that a large percentage of cases have been permanently benefited by treatment.

STATE HOSPITAL TREATMENT

A state hospital should care exclusively for the hopeful cases and these should be carefully differentiated from cases not likely to be benefited by hospital treatment. The following conditions regarding state hospital treatment of inebriety are based on our experience during the past two years.

1. Individual consideration of each case is the only rational and effective mode of treatment.

2. Abstention from alcohol is not sufficient for cure; it is required that the patient cooperate in normal measures instituted for his betterment and the ultimate success of hospital treatment depends on this sustained interest.

Medical after-care is necessary to obtain the maximum degree of success. This medical after-care to be of any benefit must be practiced with the consent and cooperation of the patient.

A state hospital for the treatment of inebriety should be considered an educational center; it should have adequate equipment for treatment of such cases, and should have facilities for segregation and individual treatment of the diverse types.

The word "hospital" when used in connection with inebriety is considered to be synonymous with "cure" or "improvement." Used in this sense it can be emphatically said that, with modern methods, hospital treatment of inebriety by the state is of economic value.

IMPROVEMENTS IN THE LAWS

The experience of Massachusetts during the past five years has revealed failures in the existing conditions which has served as a basis for pending legislation.

The trustees of the Foxborough State Hospital have presented a report to the general court, now sitting, which was submitted in accordance with legislative resolve approved during 1909. This legislative document has been presented with accompanying recommendations and a bill asking for an appropriation for the purchase of a site for the establishment of a new institution has been introduced. The report involved the careful study of the treatment of inebriety in this country and abroad; it considers in detail drunkenness in Massachusetts, its conditions and remedies. The following is a summary of the recommendations:

The Board of Trustees of the Foxborough State Hospital in their forthcoming special report, prepared in accordance with Chapter 111 of the Acts and Resolves of 1909, offer a statistical study of drunkenness in Massachusetts with reference to the cost of inebriety to the commonwealth. In place of the present system of fine or sentence to prison for the frequent offender, is substituted a plan whereby the non-criminal drunkard may be completely segregated from the other offenders of our penal system and the curable cases among them given every opportunity for cure. The plan further includes provision for the segregation and cure of female drunkards who have hitherto been subjected to custodial treatment only.

To this end the trustees of the Foxborough State Hospital have recommended to the Legislature of the Commonwealth the following:

1. The establishment of a new state hospital colony for inebriates to receive:
   A—patients who come voluntarily (Acts of 1906, Chap. 316).
   B—cases committed under Sec. 59 of R. L., Chap. 87.
   C—young habitual drunkards placed on probation by the court on condition that they spend their probation period at the hospital.
   D—suitable cases transferred on parole from the detention colony.
2. The establishment of a detention colony for incurable non-criminal inebriates, to be situated in a town neighboring to the hospital. To receive:
   A—Incurable cases committed as under R. L., Chap. 87,
   B—confirmed drunkards on indeterminate sentence.
3. The establishment of a hospital colony for non-criminal female inebriates to receive:
   A—voluntary cases,
   B—cases committed under R. L., Chap. 87,
   C—cases sentenced from the courts.

A part of the institution might be devoted to the incurables of Class C until the state had sufficient experience with provision for female inebriates to ascertain the need of a separate colony.

These three institutions for purposes of facilitation of transfer and for uniform management should be under the same board of trustees and the same medical direction.

This system as above outlined provides for all types of drunkards beyond the release and probation stages, except for the drunkard with criminal taint, who, together with refractory cases of the detention colony, should be sent to the state farm.

The present Foxborough Hospital is inadequate for this extended purpose, because of general lack of equipment and facilities. Some of the most obvious lacks in view of constructive treatment are:

1. Insufficient land for agricultural development.
2. Insufficient plant for industrial training, etc.
3. No opportunity for segregation of diverse cases.

The advantages of proposed system are:

1. A large per cent. of the 20,777 persons sentenced in Massachusetts in 1909 for drunkenness are curable. By this system such cases could be ascertained and the patients cured.

2. The utter waste of state resources involved in the sending of 9,958 cases in 1908 to prison for a month or less on account of non-payment of fine could be obviated. Some of

these men could be cured permanently. The others could be kept apart from criminals and put to work that would largely pay the cost of their maintenance—a cost which today, including expense several times per year per individual drunkard for arrest, trial, transportation and detention, is very serious.

3. The woman drunkard, who is now forced into houses of correction or state reformatories with thieves and prostitutes, could have treatment for cure whenever curable, and in any case could be kept from the street, on the one hand, and from association with criminals on the other.

The adoption of this plan will eventually lessen materially the cost to the state for the care of the inebriate. The experience of Massachusetts in caring for drunkenness is undoubtedly paralleled in the majority of states. The direct cost to the Commonwealth of Massachusetts in 1908 for maintenance in prison of such inebriates as were sentenced on the charge of drunkenness was over $500,000. When we include the cost of arrest and trial, and particularly the cost to the public and private charities for maintenance of families, it is safe to assume that these additional expenditures place the direct annual cost of drunkenness to the city and state at a point far beyond $1,000,000. This vast sum of money expended for arrests, arraignment and imprisonment is certainly an appeal for better discrimination and a more rational mode of procedure in taking care of these people.

ABSTRACT OF DISCUSSION

Dr. Alfred Saenger, Hamburg: I am glad to hear that in New York there is now a neurologic institute. Erb was the man who said that it was necessary to found such neurologic institutions. In Germany we do not have them, but in Hamburg we have neurologic wards in the two large general hospitals. In the one hospital at Eppendorf there is my colleague, Dr. Nonne, and in the other, the Hospital of St. George, I have a number of beds, and a so-called polyclinic for outside patients.

Dr. Collins states that the internists have the lead in neurology in Germany. That was so formerly, but later on we have had neurologic specialists such as Oppenheim and others, who are not internists; and it seems to be true that neurology is really a department by itself; and Erb said, at the last association meeting held at Vienna, that the time would soon come when there would be founded in Germany chairs of neurology, where formerly chairs were instituted for the internal physician exclusively. Three years ago Oppenheim, Bruns, v. Frankl-Hochwart, Edinger, v. Monakow, the late Moebius and myself established the Association of German Neurologists, and we had the pleasure at our meeting last October at Vienna of seeing several American neurologists.

Dr. Charles L. Dana, New York: The work accomplished in the establishment of a neurologic institute has been most praiseworthy and satisfactory and the importance of such an institution cannot be exaggerated. We have just had enacted a law which enables New York City to undertake a certain experiment in the care of inebriates, and on the statements of Dr. Neff and the success of such work as he has done depends largely the question of whether we are going to succeed or not. The New York law is not mandatory, and we have to go before the board of estimate and apportionment and ask them to give us money to carry it out; and if Dr. Neff's results and the experience of others in this work show that it is of economic advantage we can get the money. It is just a question of economics. In New York we have a bad history in so far as practical care of the inebriate by state institutions is concerned. This failure of the state institutions, several years ago, however, was due to politics and defective laws and administration; it is a *sine qua non* in the care of the inebriates that the institution be taken away from politics and that it be under the control of an intelligent board of managers. If any city or state cannot begin that way it might as well not begin at all. In New York we are trying to inaugurate the farm colony plan as applied to the inebriate, and instead of having the drunken man punished as a criminal we propose for the first and second offenses to let him go on probation, and then on the third offense to send him to the hospital, and then to a farm, where he is committed on a somewhat indeterminate sentence.

The whole question is one which should appeal to neurologists and interest them.

Dr. T. D. Crothers, Hartford, Conn.: It is a source of great satisfaction to have this subject come into prominence again. When the asylum at Binghamton, N. Y., the first ever organized in the world for the treatment of inebriates, opened in 1863, it excited intense opposition. Medical men and laymen called it a quack effort, denounced the theory of the disease of inebriety and its defenders as unworthy of notice. Its early presidents, the late Dr. Valentine Mott and the late Dr. Willard Potter, were condemned for having anything to do with the work. Boss Tweed was a trustee at one time, and the institution went into the hands of politicians, who after sixteen years of troubled experience turned it over to an insane asylum. The questions which Dr. Neff has brought out were discussed at that time, with equal clearness, but they were too far ahead of public opinion to attract any attention. My early experience began as an assistant physician in that institution in 1875. I assisted in making the first statistical study of the history of 1,100 patients who had been under treatment at the institution nine years before. The returns showed that 60 per cent. had continued sober and temperate up to that time. These statistics were condemned as fictions, and yet after the long lapse of time they have been confirmed, and were really the first scientific studies ever made. The curability of such patients was established, but there are people to-day who doubt it and interpose obstacles and criticism. Massachusetts is facing the same problem that came up in New York fifty years ago. I have for over a quarter of a century discussed these very questions in this Section in many papers. Now a new generation is coming on and their practical recognition is assured. The best statistics show that from 20 to 40 per cent. of 5,000 new cases of insanity registered last year in New York City are due directly and indirectly to alcohol, and this cause of all others must come into the field of medical study and critical examination.

It will be of interest that the government has published the transactions of our Society for the Study of Alcohol and other Drug Narcotics, as Senate Document 48, a book of 135 pages, containing thirty-two articles on the economic, scientific, hygienic and medical sides of the great alcoholic problem, which is the best collection of modern literature published on this subject. This is the first time the government has ever published the transactions of any medical society and indicates the profound interest in the subject. The document is sent free to all who ask their senators at Washington for it.

Dr. F. P. Norbury, Kankakee, Ill.: The organization of the Psychopathic Service of Illinois follows the line suggested by Dr. Collins. The institutions of Illinois, including the Psychopathic Institute, located on the grounds of the Kankakee State Hospital, are on a civil service basis. The organization of the service is educational; the young men are encouraged to enter the service as interns, then after a year's experience, to take the promotional examination for the grade of assistant physician; then after a service of a few years, they are eligible for promotional examination to the grade of physician; then later to the grade of assistant superintendent.

The Psychopathic Institute has a staff as follows: Director, psychologist, clinical pathologist and chemist. The work of instruction embraces the methods of clinical psychiatry and neurology, approached not only from the standpoint of psychology, but of internal medicine as well (a training in diagnostic methods of internal medicine), and consideration of advanced methods of treatment, including bedside studies suggested by Dr. Collins. To insure recognition of the educational values of such a training and its appreciation by the people whom we serve, we must have the cooperation of the medical profession. We of the west are hopeful of the continued advancement of clinical psychiatry, inaugurated by Michigan, encouraged by Indiana, Illinois has enlisted for the full values which may accrue to our profession and those whom we serve, in this education work.

Here in Missouri, under the leadership of Bliss, a similar campaign has been inaugurated, which we all hope will come to fruition, thus adding to the promising future of clinical psychiatry in the west, based wholly on a strictly professional and educational basis.

Dr. Frank R. Fry, St. Louis: We should show all the enthusiasm over this matter of legislation concerning inebriates that it is practically entitled to, but not more. Dr. Dana sounded the right note when he said that we should watch closely the practical workings of legislative attempts, and that future attempts should be based on statistics, if they will help us, or on other considerations of what has been attempted in this line.

We ought to be careful of our statements, action and recommendations, because they will be accepted as somewhat authoritative. For instance, one of the speakers on the floor just now said that certain statistics showed that a certain proportion of insanity was due to alcohol—20, 30 or 40 per cent. of cases. Now, I do not believe that there is any statistical way of proving that thing; and therefore, we ought not to say so.

As Dr. Crothers and Dr. Dana have said, attempts at legislation in this direction began many years ago, and they were failures; it is very demoralizing to attempt to do something of this kind and fail.

Dr. Hugh T. Patrick, Chicago: I am sure we are all enormously indebted to Dr. Collins and his colleagues for making this dream of a neurologic institute come true, because a dream which has come true is an enormous lever with which to pry loose the necessary funds to make more dreams come true. A demonstration beats a theory all to pieces. And I wish to say just a word of encouragement to this pessimistic Dr. Collins, for there are even now schools in which the ward walks and bedside section work are not unknown. We have them out where we live. I am bound to say that our material is not always adequate, but we have made a start.

We would have more neurologic services, pure and simple, if the neurologists were a little more aggressive. The truth is, we are too considerate of the feelings of the internists. I think that every neurologist ought to be willing to say right out in meeting that he can diagnosticate and treat a case of apoplexy or tabes or any other nervous disease better than an internist can; that he can better demonstrate it to a class; that he can talk about it better; that he can instruct the student more effectively than any internist on the faculty. If the neurologist cannot do this he ought not to be on the faculty at all. In Cook County Hospital, our largest city hospital, we now have a real neurologic service with neurologists on the staff who have their own patients and the entire control of them, also the control of the post-mortem material and can use it fully and without restrictions. They have their allotted interns as well. We have not yet our patients segregated in separate wards, as they should be; but after all, segregation is not an unmixed benefit. When the cases are mixed in the wards, the internists are apt to see them and the neurologist is apt now and then to see a case of the internist. If we neurologists did better and more fundamental work, according to our opportunities, then we would soon have more. In my experience the internists have always shown themselves not only ready for but anxious to have the assistance of any neurologists who were willing to sit down and spend the necessary time with them; and there's the rub. One ot the great advantages that Dr. Collins has in his new institute is the paid assistant. Our work is such a time-devourer that unless the best men, the thinkers, the men with ideas, can have assistants who shall not be asked to spend thousands of hours for nothing, we cannot make the sort of advancement which we should make and we shall be a long time in arriving at such a wonderful organization as Dr. Saenger and Dr. Nonne have in Hamburg.

Dr. Haldor Sneve, St. Paul: I have to take issue with Dr. Neff and Dr. Crothers about inebriety being a disease. I think that as long as we maintain that inebriety is a disease we are keeping back the hands of the clock that marks progress in the treatment of this condition.

I would make three classes of inebriates, and I would put the vast majority, say three-fifths of all inebriates, in the class of inebriates from social habit. Inebriety is a habit seldom acquired in middle or old age, but most frequently in youth, from bad associations. To see where inebriates are trained, all one has to do is to go into the slums and saloons and clubs and see there the young men.

The second class of inebriety is the neurotic type. I do not believe that the neurasthenic or neurotic inebriate, or the neurotic of any kind is a born neurotic; I think he has acquired the neuroses. I do not believe that we are born with neurasthenia, hysteria, or any of these things; we acquire every one of them. We have an immense number of neurotics in our society; every family has neurotics, and no statistics on heredity will help us very much on this point. But the neurotic will become a morphino-maniac, a cocain fiend, or "slop-over" in some way.

The third class is that of periodic drinker. If there is anything in the mental condition or disposition which makes an inebriate it must be in the dipsomaniac so-called, who goes on sprees at intervals, and the rest of the time is a good, upright citizen. If heredity played a preponderating rôle in inebriety, most people would be inebriates, women as well as men, because our grandfathers and great-grandfathers, and great-great-grandfathers before them were all drunkards practically—at any rate nearly all heavy drinkers. The statistics that have been piled up, especially in France, about the influence of alcohol on the production of the inebriate, and the criminal, and pauper, and other departures from the normal, I think are absolutely misleading. Why, in the rural districts in Europe, at the weddings and other feasts everybody got drunk, and especially the groom, and the first child might frequently be conceived while its parents were in a drunken state. We believed for years and years that if the parents were drunk at the time of conception the child would be born a drunkard, or a hysterical lunatic or defective of some kind. I do not believe it. Does anybody contend that a taste for tobacco is hereditary?

In Minnesota we are building an Inebriate Farm, believing that drunkenness is a bad habit. Somebody wished to know how to get money from the state to build an institution of this kind. We drew up a bill and went to the Board of Control of Minnesota with it; and we inserted a provision that the hospital was to be built and maintained by a 2 per cent. tax on all saloon licenses. A legislative appropriation will be delayed for years and years; all one has to do is to propose to take a tax from the liquor traffic which produces these inebriates.

Dr. Herman H. Hoppe, Cincinnati: Every neurologist should go home with the firm determination to try to establish in his native city some neurologic service in the city hospitals. We have had in Cincinnati neurologic service for ten years in city hospitals, a separate ward for the males, and part of a ward for the female neurologic patients. I do not believe that the standing of neurologists will ever be on a firm basis until they maintain that they are, as Dr. Patrick says, more capable of making neurologic diagnoses and taking care of neurologic cases than the internist who calls them in for consultation. When Dr. Collins was in Cincinnati a few days ago, I showed him two cases of obscure family paralysis which no neurologist could diagnose by going into a hospital on neurologic service and giving fifteen minutes to this case. They would require continued study for hours and perhaps days and weeks before a definite opinion could be had which would be worth anything. Being merely a consultant will not give one the standing in the hospital or perhaps the opportunity or the desire to go back and study these cases as they should be studied.

Our system is as follows: If a man on another service wishes a neurologic consultation, he makes a written application for it, and then the case is either transferred to the neurologic service, or it remains a joint case until disposed of either by diagnosis or by some operative treatment, if it should happen to be an operative case; and I believe that this is the only satisfactory method by means of which neurology can be practiced in cities where there are general hospitals, and the only satisfactory practice which will give the neurologic specialist the standing to which his past and present work entitles him.

Dr. Joseph Collins, New York: My contentions briefly are that neurology is an integral part of internal medicine, and that the only way to be a neurologist is to have it a specialty, founded on internal medicine. It would be impossible for me to practice neurology without being an internist; and therefore, I have had for fifteen years, and hope to have until I retire, a service in a large general medical hospital. I appreciate that in certain parts of the country that does not exist, and that a neurologist in certain parts of the country is a man who treats neurasthenia only, and in other parts is a man who treats neurasthenia and mental disorders.

I am familiar with city hospitals, such as the Cook County Hospital and the Cincinnati General Hospital, because I have been for eighteen years an attending physician to the New York City Hospital, which is very similar. Such hospitals do not get the class of cases in neurology with which we are taken up in private practice. It is no longer a large part of our work to diagnosticate tabes or syringomyelia; our work is centered chiefly on the consideration of and the effort to effect cures in the so-called borderland cases of neuropsychosis, and cases in which it cannot be determined whether there is an organic disease or a metabolic condition. They come only to such hospitals as the Presbyterian Hospital and St. Luke's in New York, and other hospitals similar to those in your own cities that receive acute cases. In those hospitals in New York, Philadelphia and Boston, the cities with which I am familiar, there is no neurologist who has any welcome or right save as a consultant. There is no neurologist connected with any such institution who has the privilege of going into these hospitals except on special invitation, and there he is expected to deliver an *ex cathedra* opinion, not based on an adequate history, but merely on a short examination. In reality he is not competent to deliver such an opinion within a month or within two or three months; and he should be permitted to have the opportunity to study the case in order that discredit should not come to his diagnostic acumen.

I am not pleading that neurology be given up as a specialty. I am maintaining that its progress has ceased, because the internist has not looked on it as a part of medicine with which he should make himself familiar; and on the other hand, he has attempted to overlook neurologists by keeping them out of hospitals to which they are entitled to go. The only way left is to insist on the establishment and development of hospitals for nervous diseases, and on having neurologic wards in general hospitals for the treatment of acute diseases.

Dr. L. Vernon Briggs, Boston: In regard to the physiologic work in the hospitals in Boston I have felt for a long time that the work of neurologists and alienists should be separate. I have been in charge of a mental clinic twelve years in Boston alongside of a nervous clinic; we are entirely separate; and the nervous and mental clinics in the London hospital are separated. They treat 1,000 patients a day. It is not so in most of the hospitals; the nervous and mental cases are treated together or by the same physicians.

In regard to what has been said of the Boston hospitals by Dr. Collins I take exception; in that Dr. James J. Putnam has this last year among his friends secured a fund for the establishment of certain beds for neurologic patients in the Massachusetts General Hospital. These were placed entirely under his control. Patients to be sent by the neurologic department to those beds can remain there as long as the physicians want them to. Following the Massachusetts General Hospital the neurologists of the Boston City Hospital, through Dr. Prince mainly, have persuaded the trustees to set aside twenty beds for their clinic. These are entirely devoted to nervous and mildly insane patients.

Dr. Irwin H. Neff, Foxborough, Mass.: I think that the discussion on inebriety has proved that there is a lack of uniformity of opinion in the medical profession on this subject. But it makes little difference whether we consider it a disease in a special or general sense, or whether we consider it purely a habit. My opinion is that it is a habit engrafted on a nervous condition, but, be that as it may, I cannot help but emphasize that the need of state care for the inebriate is as great as that of caring for the insane. It is only within the past twenty years that the medical profession has taken up the question of modern psychiatry; any advance made in psychiatry during the twenty years has been wholly due to the interest taken in it by the medical profession, and I want to appeal to each member of the Section to work for state care of the inebriate. I think this should be considered by each member of the Section from a clinical, sentimental and economic point of view.

SERUM TREATMENT OF HEMORRHAGIC DISEASE OF THE NEW-BORN

WITH REPORT OF THREE CASES

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The internal method of the treatment of hemorrhage has received its most successful presentation from P. E. Weil's report of his results with serum in 1905,[1] and from his subsequent articles. He demonstrated that in hemophilia oftentimes the slow coagulation of blood does not result from an anticoagulating ferment, but is due to a lack of, or at least a modification of, certain substances in the blood, as the fibrin ferment. This was shown by him *in vitro;* first, on the addition to freshly-drawn blood of a small amount of hemophilic serum, the serum did not in the least retard the clotting of the blood, as proved by controls; and secondly, on the addition to freshly drawn hemophilic blood of a small amount of fresh serum from normal blood, the serum caused the hemophilic blood to clot as rapidly as and in a similar manner to normal blood, thus proving that its noncoagulability is due to a lack of some substance which normal serum supplies. Weil[2] writes that the injection of fresh blood-serum directly into the circulation or subcutaneously introduces the necessary coagulating ferments and in all probability helps the system as well to produce such ferments on its own account. The serum of man, the rabbit, horse and cattle has been found efficacious, although *in vitro* the action of human serum is more evident in correcting the disorder.

Labbé[3] and Wirth,[4] after reviewing the literature on the various methods of internal hemostasis, are of the same opinion as to the disappointing results obtained after using calcium, gelatin, ovarian and other organ therapy, and are agreed that far more success has been attained with the subcutaneous and intravenous injection of fresh serum. The indications for this form of treatment are especially marked in all cases of hemorrhage due to a lowered coagulating power of the blood, though useful and well worthy of trial in all other forms of hemorrhage.

The hemorrhagic disease of the new-born is a condition in which this method of hemostasis is especially applicable. This condition is practically confined to the first ten days of life and is self-limited. It occurred in Shukowsky's[5] experience twenty-nine times in 30,000 cases, approximately once in a thousand births. The most common sources of severe hemorrhage are the gastro-intestinal tract, umbilicus, mouth and nose, ecchymoses of the skin and combinations of these.

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1. Presse méd., October, 1905, No. 84.
2. Weil: Internat. Clin., 1907, Series 17, iv, 28.
3. Rev. de méd., 1908, No. 2, xxviii.
4. Centralbl. f. Grenzgeb. d. Med. u. Chir., 1909, xii, No. 7.
5. Arch. f. Kinderh., 1907, xiv, Nos. 5-6.

Townsend[6] in 609 cases collected from different writers on the subject reports a mortality of 79 per cent., and in his own particular report of 32 cases a mortality of 78 per cent., although some three years later his own reported cases[7] amounted to 50, with a mortality reduced to 62 per cent. Hemorrhagic disease of the new-born can be differentiated from true hereditary hemophilia, in that the infants affected are nearly as often females as males; that those that bleed in the first few days of life, if they recover, rarely manifest any such tendency later, and, in addition, true hemophilia usually does not manifest itself before the end of the first year. True hereditary hemophilia is a rare cause of uncontrollable hemorrhage in the new-born, Larrabee[8] finding but thirty-seven cases in the literature. Therefore it is important that hemorrhagic disease of the new-born should be carefully differentiated from hemophilia. Both Townsend and Larrabee particularly emphasize the fact that hemorrhages in the early days of life are due to a cause that is but temporary, so that no effort should be spared to save the infant, since if it survives a few days there is every probability of continued health.

The etiologic factor has been variously attributed by different writers to a weak condition of the child, difficult labor with trauma to the child, deficient capillary walls, difficulty in establishing pulmonary circulation at birth, infection and syphilis. The disease is present so often in the absence of any of these factors that some other general underlying cause must be sought. The lack or modification in some manner of the fibrin ferment, as in Weil's explanation of hemophilia, apparently is more often a common factor and the possible cause of the disease.

CASE REPORTS

Case 1.—M. M., a female infant, born at full term, of healthy parents, seen in company with Dr. L. C. Miller. No history of hemophilia in either family. Mother's first pregnancy; normal labor; head presentation; position, left occipito anterior; second stage, two hours. At birth the child breathed immediately; weighed 7 pounds 4 ounces; healthy appearing. Cord ligated early. Baby nursed when thirty-six hours old. At the forty-eighth hour, slight amount of blood in stool, then vomited blood-tinged mucus. At the fifty-fifth hour, a large tarry stool. At the sixtieth hour, vomited partially digested blood. Then every hour the infant began to vomit considerable bright blood, and also to pass it with the stools, which came nearly as frequently. The child now began to look exsanguinated, to refuse nourishment and to cry weakly. At the sixty-fifth hour, slight hemorrhage was noticed at base of the cord, which grew in size, so that the gauze pads became saturated. When seen about the seventy-fourth hour, the child was apparently moribund. Calcium lactate internally and epinephrin locally to umbilicus had been of no avail. The hemorrhage continuing unabated, fresh rabbit-serum (5 c.c.) was administered subcutaneously. The hemorrhage from the base of the cord ceased almost immediately. The child vomited only once thereafter, and that nine hours later; this was only a slight amount of pinkish tinged mucus. Quantity of blood in stools diminished almost at once, but not until the fifth day were they free from meconium or tarry appearing material. Injection of five c.c. of the serum was repeated twelve hours after the first dose, although there was no fresh hemorrhage to indicate it. Cord dropped off on the fifth day; no hemorrhage from base; no jaundice; no after-effects from the serum were manifested. The baby made a rapid recovery: at fourteen weeks, breast-fed, was strong, healthy and weighed 13 pounds and 4 ounces, a gain over birth weight of 6 pounds.

Case 2.—B. D., a male infant, born at full term, seen in company with Dr. J. M. W. Farnham. Family history on both sides negative, good; no hemophilia. Mother's second pregnancy, and normal; the first child healthy, 3 years of age. Head presentation; position, left occipito-anterior. Labor of five and one-half hours' duration. Birth-weight was 8 pounds, 12 ounces. Strong cry at once. Cord ligated early. Baby seemed normal in every respect. At the thirty-eighth hour, slight bright red blood-tinge on the napkin at the margin of a large stool of meconium. Then about every hour for the next nine the bowels moved with more and more blood in each stool, the blood amounting in aggregate apparently to several ounces. When seen at this time, the forty-seventh hour after birth, the baby's general condition was still fair, but the mucous membranes were markedly pale, and the infant said to be much weaker than at birth. Fresh rabbit-serum (5 c.c.) injected subcutaneously. The next two stools, one hour apart, contained only a small trace of bright red blood, and after that only tarry meconium. On the sixth day the weight was but 7 pounds, a loss from birth-weight of 28 ounces; in good condition otherwise. Cord did not separate until the twelfth day; no hemorrhage; no jaundice; no after-effects from serum noted. Baby was fed on modified milk; six weeks after birth the weight was 8 pounds and 12 ounces, a gain of 28 ounces in thirty-six days.

Case 3.—B. L. This case is reported through the kindness of Dr. F. W. Cary, from his service at the Worcester City Hospital, coming under the direct charge of Dr. C. G. Lane, house obstetrician. B. L., a male infant, born at full term. Family history negative; good as far as obtained. Mother 35 years of age; second pregnancy; first labor had been three years previously, and difficult. Head presentation; position, left occipito-anterior. After a long first stage, head still unengaged, because of its large size and the mother's slightly justo-minor pelvis; under ether an internal podalic version was performed, arms became extended and brought down with difficulty; head delivered after much traction. Baby was resuscitated with difficulty; general condition rather poor. Weight, 8 pounds and 4 ounces. Double brachial paralysis. On the second day a small amount of fresh blood was noticed in the stool. On the third day a swelling appeared on the right cheek, which increased in size, becoming dark purple in color and tense, causing the mouth to be held open and closing the right eye. There was marked difficulty in breathing through the nose, because of hemorrhage within. Blood trickled from the nose almost constantly for the fourth and fifth days; also a smaller quantity flowed from the mouth, but it was a question whether or not any was really vomited. There were two or three stools with fresh bright blood and a number with dark blood, as if from a source higher up in the alimentary canal. Calcium lactate had no effect on the hemorrhage. By the end of the fifth day the baby was moribund. Fresh rabbit-serum (5 c.c.) was then administered subcutaneously. The hemorrhages ceased almost at once; only twice in the next few hours was the crib even stained with a small show of blood from the nose. The stools were dark, tarry for three more days, gradually then changing to yellow. The hematoma of the face decreased slowly in size for two days; later rapidly. The baby had a temperature of 101 F. at the onset of the hemorrhage, but it was not elevated again thereafter; no jaundice; no after-effects from the serum. The baby throve, and at four months was large for its age, and the paralysis had cleared up.

SUMMARY

Two of these patients, the first and third, were apparently moribund when the serum was administered. The second case had not progressed so far as the other two, but is to be considered serious also, for previous to the injection the bowels had moved each hour for nine hours with large results of dark, tarry, meconium-like material and bright red blood, and on the sixth day the baby weighed 24 ounces less than at birth, a portion of which large loss certainly can be attributed to the hemorrhage.

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[6] Boston Med. and Surg. Jour., 1891, cxxv, No. 9.
[7] Arch. Pediat., 1894, xi, No. 8.
[8] Am. Jour. Med. Sc., March, 1906, cxxxi.

Although in general it is recognized that this hemorrhagic condition is self-limited in 25 *per cent.* of the cases, and possibly any one of these patients might have recovered without the serum, the sequence of recoveries in three serious cases should be ascribed to the action of the serum. The most impressive fact to the observer in each case was the almost immediate control of the hemorrhage after the administration of the serum. This was shown directly from observation of the umbilicus in the first case, and the nose in the third, while indirectly in all three by the absence or marked diminution of normal blood in the stools, although for the following two or three days each baby did have a tar-like material in the stool, suggestive of old blood; but no tests were made at the time to prove this.

The amount administered in each case was 5 c.c. of clear rabbit-serum, injected immediately after procuring it from the animal. In the first case this dose was repeated in twelve hours, although there was no sign of a fresh hemorrhage at that time, and it seems to have been uncalled for on present consideration of the case. The serum in these cases gave absolutely no untoward symptoms. No lesion of the skin, swelling of the lymph-glands or edema was noted. The serum treatment of this disease has been extremely successful in a series of Dr. John E. Welch's cases, which as yet have been remarked on only editorially.[9] Dr. Welch used human instead of animal serum, and in that manner avoided the sensitization of the patients to a foreign serum and the possible danger later of anaphylaxis, if the same serum was ever administered at any future time.

OTHER METHODS

This condition has also been successfully treated along this same line in two other different ways. Wirth reports a case in which hemorrhage from the nose and mouth was rapidly controlled by the local application of some sponges saturated with horse serum.

Three other remarkable cases have been reported, in each of which the baby was moribund, and in whom complete recovery ensued immediately after direct transfusion. These recoveries probably took place for the same reason as previously noted, namely, the accession of fibrin ferment from the donor, with the additional factor also of simultaneously abolishing the extreme anemia. Direct transfusion, therefore, has this gain over the less technical serum treatment. The serum treatment, however, has a distinct place in the therapy of this condition, because of its simplicity and lack of operative shock to the delicate patients. It is of course to be followed by transfusion if necessary, as was done in the case in which Murphy[10] was called on to perform the operation. In that case the subcutaneous injection of rabbit serum is reported as 75 c.c., administered without effect in checking the hemorrhage. The size of the dose possibly in itself may account for the failure, as Weil warns that too large a dose produces the opposite effect. In two of these cases, one of which is reported by Lambert[11] and the other by Mosenthal,[12] transfusion was performed by Carrel by an end-to-end anastomosis, and in the third by Murphy by the use of a cannula. In all of these three cases the success is to be attributed to the special skill of the operator, and few communities as yet possess such especially skilled men.

61 Pearl Street.

Therapeutics

RECTAL AND PHARYNGEAL ANESTHESIA

The last word has not yet been said as to the best method of producing general anesthesia, therefore any demonstration or proof of a method that will be satisfactory in cases in which the ordinary methods are troublesome or even dangerous is welcomed. While spinal analgesia under the administration of an expert (and of necessity there will be but few who will ever become expert, by study and frequent practice, in this particular branch of surgery) is apparently safe, it is and always will be a dangerous and serious operation in the hands of one of inexperience. The proofs of this assertion are so many that it is hardly worth while to cite the reasons. A demonstration recently given in Washington, at the annual meeting of the American Therapeutic Society, by Dr. W. Wayne Babcock, of Philadelphia, positively showed the reasons for lack of anesthesia and the reasons for dangerous anesthesia by spinal injections of local anesthetics in solutions of varying density. Dr. Babcock based his knowledge of spinal anesthesia on his laboratory study and on 2,000 spinal injections. With such an experienced spinal anesthetist the surgeon and the patient might feel safe, but it seems demonstrated that spinal anesthesia will not ordinarily be the method of choice.

Rectal anesthesia was first practiced and recommended by Pirogoff, of St. Petersburg, in 1847, but little more was heard of this method until 1884, when several French surgeons and some American surgeons took up the method. The method of administering the ether was to surround the ether bottle with hot water to cause the ether to vaporize rapidly, and this vapor was directed through a tube into the rectum and up into the colon. The advantage of this method of causing anesthesia was that there was less nausea and vomiting, less coughing, and less disagreeable after effects, and the amount of ether used was much less than when administered by the lungs. Also, in operations on the head the anesthesia could be continued and no contamination or interference with the field of operation occurred. The disadvantages were that the primary anesthesia was rather slow, that sometimes profound anesthesia occurred which could not be prevented, and frequently bloody, or at least troublesome diarrheas from irritation of the colon developed subsequently.

On the presumption that rectal anesthesia would be, in many cases, a valuable procedure and that a proper apparatus could be devised so to regulate the ether and diluting gas administered as to overcome all the disadvantages of the method, Dr. Herbert K. Thoms, working in the surgical laboratory (Yale Medical School) of Prof. J. M. Flint and in the New Haven Hospital under Professor Flint and Dr. William Verdi, has perfected an apparatus which seems to work successfully, both laboratorically and clinically in producing safely and satisfactorily anesthesia by way of the rectum. A complete description of the apparatus and the method of using it appears in the *Yale Medical Journal*, May, 1910. This apparatus is on a standard easily movable to any part of the operating room, can have the electric heating apparatus so modified by a rheostat as to cause rapid or slow evaporation of the ether, by combining tubes allows any desired mixture with oxygen or air, so as to prevent too irritant or too great concentration of ether vapor. Also, without dislodgment of the rectal tubes pure oxygen or air may be substituted for the ether-loaded gas in the colon, if anesthesia is too profound.

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[9] New York Med. Jour., 1910, xci, No. 17.
[10] Boston Med. and Surg. Jour., 1909, clxi, No. 12.
[11] Med. Rec., New York, 1908, lxxiii, No. 22.
[12] Mosenthal, H. O.: Transfusion as a Cure for Melena Neonatorum, The Journal A. M. A., May 14, 1910, p. 1613.

To overcome the primary slow anesthesia from the rectal method, in Thoms' cases primary anesthesia was generally caused by the administration of chloroform or ether by the lungs; then immediately the rectal method was substituted. This left the operative field of the head, face and neck entirely free for the surgeon.

As the anesthetist, in such operations on the head, can sit with his apparatus at the patient's wrist with the arm extended, he has the character of the pulse under observation.

One essential to the success of ether anesthesia by the rectum and colon is that the lower bowel shall be thoroughly emptied of feces by rectal injections and colon washing prior to the administration of the anesthetic.

This same apparatus, Thoms demonstrated, was perfectly serviceable for administering ether by way of a catheter put through the nostril into the pharynx. This method obviates much of the profuse salivation often caused by administering ether in the usual way. This is a valuable method when the back of the head must be operated on and the patient must lie with the abdomen and face downward.

PEPSIN

A number of years ago pepsin was freely given for all kinds of stomach indigestion, in fact, large amounts of pepsin in various more or less useful forms were administered. During the last ten years the amount of pepsin used has gradually, continually, and almost rapidly, diminished on account of the assertions that pepsin was rarely diminished in quantity in the stomach secretions in ordinary diseased conditions; that the main trouble was always with the hydrochloric acid, it being readily diminished, or, often in nervous temperaments, increased in amount. It is now generally known that a diagnosis cannot be made by the presence or absence of hydrochloric acid in the stomach test meal. Free hydrochloric acid may be present in carcinoma of the stomach, and it is often absent in disease of the stomach adnexa and in many, if not all, cachectic conditions.

Mr. William C. Rose (*Archives of Internal Medicine,* May, 1910, vol. v, p. 459) has, by new methods of testing for pepsin in patients after the Ewald test meal, shown that the peptic activity may be greatly diminished or even become absent, not only in gastric cancer, but in cancer of the intestine, esophagus, and even breast. Such patients, then, should receive not only dilute hydrochloric acid after their meals, but also pepsin if the nutriment administered is to be of any value. It is interesting to note that in a patient who had gall-stones the pepsin was found diminished to one-third of normal.

It is possible that, after prolonged illnesses such as typhoid fever or other serious sickness, not only should dilute hydrochloric acid, in small amount, be administered, but also pepsin to aid in the proper digestion and assimilation of food.

DIABETES MELLITUS

Ever since the danger of acidosis has been recognized and the likelihood of acidosis being caused by a sugar and carbohydrate-free diet in this disease, physicians have been constantly on the alert to recognize this condition by a study of the urine. The indicator of danger has been considered to be the finding of diacetic acid in the urine. This is of ready determination by a ferric chlorid solution added to the urine causing the development of a red or crimson color. It has been found, however, that this reaction could be present and still not be a positive indication of the amount of beta-oxybutyric acid that is in the urine or the nearness of an actual toxic acidosis. The determination of the betaoxybutyric acid is tedious. The same is true, more or less, of acetone and of ammonia that may be present in the urine. Therefore the tests must be made in the laboratory and should be made frequently when a diabetic patient's diet is being gradually reduced to pure proteid and fats. By such careful examination it has been lately learned that the presence of these acids in the urine is not necessarily an indication that the diet must become more liberal or that starch should be immediately given. Of course if symptoms of diabetic coma are present very large amounts of alkalies must be administered and starch in liberal quantities must be immediately allowed.

Lately a simple indicator of the actual condition of the system as to acidosis has been suggested by L. Blum (*Therapie der Gegenwart,* 1910, li, No. 3, p. 97). He finds by repeated experimentation both with diabetics and with controls that from 5 to 10 grams (75 to 150 grains) are sufficient to render the urine of the normal patient alkaline in reaction, while with mild acidosis 20 grams (5 drams) are necessary. With an acidosis of moderate intensity from 20 to 30 grams (5 drams to 1 ounce) are required, while in severe cases of acidosis it takes 50 grams (12½ drams), and in actual diabetic coma 150 grams (5 ounces) or more are necessary before the urine will become alkaline. Bicarbonate of sodium, therefore, seems to be a very simple indicator of the acid condition of the system, and every few days, when the starches and sugars are being gradually diminished, the bicarbonate test should be tried.

CONSTIPATION

We have become used to the recommendation of soured milk or some soured milk preparation for various kinds of intestinal indigestion, but Dr. Thomas D. Luke (*Practitioner,* May 1910, vol. lxxxiv, p. 653) recommends these preparations in the treatment of constipation. As a matter of fact, with certain kinds of diarrhea soured milk will stop the abnormal fermentation and may actually produce constipation. Dr. Luke finds that constipated patients who will take from 2 to 4 glasses a day of a curdled or soured milk will have normal movements of the bowels. Of course this must be continued for a long number of weeks, and then the amount gradually reduced. He admits that the addition of agar agar to the diet is an improvement. It is perfectly true that constipation is very frequently due to gastric and intestinal indigestion, the latter not serious enough to cause diarrhea. In such cases soured milk, correcting fermentation, might well be of benefit. It is certainly of value when there are colon putrefactive processes.

A valuable simple treatment for constipation is yeast, taken once or twice a day, depending on the number of movements of the bowels that it causes. The ordinary tin foil yeast cake works almost as well. The amount administered should be about five-eighths to three-quarters of a cubic inch dissolved in half a glass of water. This dose should be taken twice a day.

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[*For other information see second page following reading matter*]

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THE INTELLECTUAL LIFE AND THE PHYSICIAN

Like most lives that are worth while, the life of the physician is weighted with heavy responsibilities. The problems, both of disease and of health, which it presents, demand a keen appreciation of values and refined judgment; and how, one asks, can these be acquired except by the closest, the most unremitting, the most single-minded concentration of interest, of purpose, and of activity? With "the life so short, the craft so long to learn"—with accident and occasion perpetually conspiring to snare away the golden fleeting minutes—with human powers so often failing before the great tasks set them—the conscientious man is often led to feel that to "take the time" for intellectual activities which do not contribute directly to professional knowledge is an indulgence little short of a crime. For the overworked physician to steal an hour for the perusal of Carlyle or Coleridge when he ought to be "reading up" an obscure case seems a sort of professional suicide.

So we allow ourselves to be driven from task to task by the sense of duty still unfulfilled. Yet, if we can but detach ourselves from our own problems long enough to view them with impersonal eyes, no one knows better than we do the fallacy in the argument put forward by an overwrought sense of duty and overburdened nerves. All too well do we know the scientific truth underlying the ancient saws about "all work and no play" and "the bow that is never unstrung." Both brain and will are often found in thraldom to depletion of physiologic force. No great work of any kind was ever wrought out of exhausted cell protoplasm.

For the physician who is driven by unremitting toil nothing is more justifiable than the occasional pursuit of some hobby or avocation, for mere change of mental atmosphere is often more restful than doing nothing. Provided that the given form of recreation is capable of absorbing one's mind and interest for the time being, it matters little from this point of view what it is—golfing, fishing, or the study of numismatics or genealogy. It is said that the venerable philosopher, Dr. James McCosh of Princeton, after spending hours of intense intellectual effort in his library, used to take up with avidity the most thrilling yellow-bound novel he could lay his hands on. This, while it might better be called the escape from than the pursuit of the intellectual life, acted as a preventive of brain-fag and neurasthenia by calling into play a different set of faculties. Most of those who care for what may justly be termed literature, however, find an increasing delight in it because its great variety brings to their minds something that stimulates or soothes according to their demands.

It may be said, and with much justice, that the physician's life is necessarily an intellectual one in greater or less degree. He needs recreation like all other workers; but is intellectual exercise the recreation he needs? Certainly there is no profit to the spent and jaded mind in reading Kant or Schopenhauer when fit for nothing more strenuous than a light novel. When one is reading for recreation, the best thing to read is what most thoroughly refreshes the mind, whether that happens to be Scott or George Meredith or Diamond Dick.

After all, however, there is something out of order either in the mind or the life of the man who feels no spontaneous impulse toward mental effort in other fields than those which it is his life-work to till; and the man who forever represses that impulse will find that his life-work, as well as himself, is narrowed thereby, for he will have the less mentality to bring to it. There is a sort of mental movement suggestive of that peculiar unicellular organism, the ameba, in which the mind wraps itself about a thought, digests it into what seems best suited for its upbuilding and stores it away in the intellectual body. The business of mind-building continues indefinitely and constantly just so long as disease does not step in to destroy the power of concentration. Perhaps one never learns any subject thoroughly which may not prove useful at some time in one's career. The physician should be not only a man of learning but a man of culture.

The day has long since gone by, to be sure, when any man, however great his powers and gifts, could take all knowledge for his province; but the physician, whose province lies, so to speak, at the center of the realm of human knowledge, and lays all the others under tribute, has the least justification for intellectual provincialism. If physicians as a class were to allow themselves to become narrow specialists or professionalists, so absorbed in their own science and craft as to lose the sense of relation to the life and mental movement about them, they would soon come to be regarded as mere tinkers and in no sense engineers—called in when the machine absolutely refused to go, but disregarded on all other occasions, because tinkers do not know or care how or for what purpose the machine is to be used.

Every good reason exists for a fondness and cultivation of the broadest intellectual life by the physician. As an individual, he needs the change of mental atmosphere; as a professional man, he needs the new light on his own problems often supplied by excursions out of bounds; and the profession needs men of broad intellectual outlook.

RECENT ADVANCES IN STUDY OF ANAPHYLAXIS

In the first periods of investigation of the anaphylaxis reaction the objects mainly sought were, appropriately, the establishment of the general characters of the reaction, its limitations as to animals, materials and dosage, and similar matters that could be learned by purely objective methods. These facts having now been satisfactorily established and a safe basis for more speculative excursions provided, investigators have recently been considering more closely the real essential nature of the phenomenon and its relation to the other biologic reactions. From their studies many valuable contributions have come within the last two years, and our understanding of the real significance of the reaction of anaphylaxis has been much helped; therefore a review of some of the most striking of these advances may be profitably made at this time.[1]

By the earlier investigations it was shown that the anaphylaxis reaction could be induced in certain warm-blooded animals by injection of almost any soluble protein at suitable intervals, the first injection rendering the animal sensitive to the second injection of the same protein. By no means all animals react, however, to such injections, and the guinea-pig shows by far the most marked and constant reactions, being about four hundred times as reactive as rabbits. Dogs and rabbits react quite differently from guinea-pigs, while mice, rats and some other animals seem not to react at all. In the blood of animals that have received a single dose of protein there appears a substance which renders the animal sensitive to the protein, so that if the blood of such a sensitized animal is injected into a normal animal this second animal is rendered sensitive to the protein, a process of "passive sensitization." After an animal has survived a second or intoxicating dose of the protein it is commonly found to be no longer sensitive to the protein, this stage of "antianaphylaxis" being characteristic especially of reactions in guinea-pigs. With these fundamental facts well established by the earlier studies, their explanation has been the chief object of experimenters now in the field.

It is now believed by most investigators that the protein which intoxicates the animal at the second injection is identical with the protein which sensitized it after the first injection, this being the view originally maintained by Rosenau and Anderson. So far no satisfactory evidence has been brought forward that anything except proteins can produce the anaphylactic condition, and these proteins must be in a soluble form and not much altered by chemical or other means from the natural state. The first introduction of the abnormal protein into the circulation of the animal causes a reaction with the formation of some substance, the "reaction body," which unites with the protein injected later, to form a poisonous substance, the "anaphylatoxin." Since the symptoms produced in reacting animals are quite the same with the most varied of proteins, it would seem probable that the poison produced by this reaction is the same with all proteins. This formation of anaphylatoxin ocurs not only when the protein is injected into a sensitized animal, but also when the serum of a sensitized animal is mixed with suitable quantities of the specific protein in the test-tube, the resulting mixture causing immediately the typical symptoms of anaphylaxis when injected into a normal animal.

This observation brings the anaphylaxis reaction into close relationship with the other known serologic reactions of immunity, and there is rapidly growing evidence in support of the contention of Friedberger that the anaphylaxis reaction and the precipitin reaction are inseparably related. He maintains that the reaction of the specific protein with the serum of the sensitized animal causes the formation of a body entirely analogous to the precipitate produced by the action of a precipitin on the specific protein, which, in the presence of the serum complement, is made soluble and toxic. Since recovery from this anaphylatoxin is so rapid and complete, it evidently is in the same class with such poisons as atropin, morphin and strychnin, rather than with the poisons that cause marked tissue injury, such as phosphorus, arsenic, ricin, etc. It seems probable that the fundamental reactions are the same in the formation of precipitins, agglutinins, hemolysins, bacteriolysins, complement fixation bodies, and the anaphylactic reaction body or sensibilin. In all cases alike, a foreign protein is introduced into the body of an animal, which reacts by the production of immune bodies; these immune bodies may be demonstrated by observing their precipitating, agglutinating, lytic, complement-binding, or anaphylactic reactions, the substances involved being the same and only the means of exhibiting their presence and action differing in each case. This is essentially the conclusion reached by Doerr as to the *place of anaphylaxis among the immediate reactions*, and there is much evidence for this view which we have not the space to repeat.

Much work has been done to determine the limits and degree of specificity of the anaphylaxis reaction, with the general conclusion that these are quite the same in nearly if not all respects as the precipitin and complement-fixation reactions; the chief difference lies in the fact that the only available means for observing the anaphylaxis reaction is the production of acute symptoms in experimental animals, which is far less accurate and delicate than the objective test-tube methods used in the precipitin and complement-fixation reactions. On the other hand, the extremely minute quantity of protein required to sensitize an animal gives the anaphylaxis reaction an advantage in certain medicolegal investigations, especially when cooked or putrefying flesh must be identified. An important addition to the symptomatology of the anaphylaxis reaction is the marked fall of temperature which accompanies positive reactions; this objective measure promises to be of assistance in doubtful cases, but it falls far short of making our determination of the presence or absence of reaction as well defined as is necessary for exact studies.

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[1] An excellent review, covering most of the recent literature, has recently been published by Doerr, R.: Ztschr. f. Immunitäts-forsch., 1910 (II Ref.), p. 49.

Some attempts have been made to apply the passive sensitization phenomenon to clinical diagnosis, on the principle that if an individual suffering from an infection is sensitized to the infectious agent his blood, when injected into an animal, should render the animal passively sensitive to the proteins of the infectious agent. So far, however, no very satisfactory results have been obtained with bacterial injections, or with the serum of persons with echinococcus cysts, although the severe symptoms which occur when such cysts rupture have been ascribed to an anaphylactic reaction to the protein of the cyst contents. Pfeiffer, however, asserts that the serum of cancer patients, when injected into guinea-pigs, renders them passively sensitive to cancer proteins, so that they react typically if extracts of cancer tissue are injected forty-eight hours later. This reaction is based on the assumption that cancers contain proteins which are specifically different from the normal proteins of the host, an idea for and against which much has been written; it can be stated only that there is much dispute concerning Pfeiffer's claim, and it cannot yet be considered as established. Another suggestive observation, first made by Rosenau and Anderson, that eclampsia may be in some way related to anaphylaxis, since guinea-pigs can be sensitized to extracts of guinea-pig placenta, has received some support by the finding that serum from eclamptic women will render guinea-pigs passively sensitive to human amniotic fluid, which indicates that the blood in eclampsia contains specific reaction bodies against the proteins of the fetal fluids.

THE ENDLESS CHAIN

Some one has used the expressive phrase "endless chain" to describe the passage of pathogenic bacteria through the body of a patient—where they tarry for a time and multiply, their exit into the external world, and their entrance, by a variety of routes, often circuitous, into the body of a fresh victim. It is the self-imposed task of preventive medicine to interrupt this chain at some point.

As is well known, not all parasites are alike in the ease with which they survive outside the body of their host. In the case of most pathogenic bacteria, we know that ordinarily no multiplication takes place outside of the body of the host and that the bacteria discharged from the body of the patient perish more or less rapidly. For each disease, there is some one link of the chain that experience has shown can be most readily broken by the application of preventive measures. Attempt is made in some cases to prevent the distribution of pathogenic microbes from patient or convalescent, and to this end elaborate measures of isolation and disinfection are instituted. In others, the chief aim is to prevent microbes present in large numbers or unavoidably in the environment from getting a lodgment in the uninfected human body. In many instances both kinds of measures must be carried out in order to attain even a moderate degree of preventive success. With typhoid fever, to use one of the most striking illustrations, a more general disinfection of the urine and feces of typhoid fever patients would unquestionably diminish the prevalence of this disease; and yet the existence of unrecognized "carriers" would still leave a wide opportunity for the application of measures designed to prevent the swallowing of typhoid bacilli. Owing to the high vitality of the typhoid bacillus outside the body, the endless chain of bacilli passing from patient to patient and again out to fresh patients is somewhat more in evidence than in some other infectious diseases.

To continue with this example, it is a matter of national surprise that, when these facts are so well known, the response of the American business man is not more prompt and effective. Quick to detect sources of leakage and loss in many matters of a financial nature, the average American has seemed slow to grasp the depreciation of national resources involved in the steady oozing away of valuable human life. It might be supposed that in this day it would not be necessary to dwell insistently on the relation between water-supply and sewage disposal, but the public memory seems short. Nowhere is the endless chain more conspicuously before our eyes than in those instances in which one can see thousands or even millions of gallons of sewage flowing into a lake, and not far away the intake from which the water-supply of a great city is derived.

The situation in Milwaukee, as described two weeks ago, is one of these cases. The lesson that up to 1895, when the water tunnel was extended more than a mile into the lake, much of the typhoid fever in Milwaukee was water-borne, appears to have been thrown away; indeed, it does not seem to have attracted the attention of professional sanitarians that it deserved. Increase of the city's population by more than 100,000, together with increased facilities—save the mark!—for pouring sewage into the lake has now led, after about fifteen years, to a recurrence of the disease to a degree that has drawn general notice. And yet one would suppose that the situation had been sufficiently plain for several decades. An observer standing by the river mouth (or sewage outfall) in Milwaukee can without much imagination visualize the endless chain of typhoid bacilli from the sewer direct to the water intake. All the known facts pointed to water pollution—the frequent occurrence of winter and spring epidemics, the general distribution of cases throughout the city, the high typhoid rate prior to the extension of the water tunnel, the finding of *Bacil-*

lus coli in the tap-water. There was the endless chain for all to see. The situation demanded action by an intelligent community years ago. Are there any other cities nursing the delusion that they can get rid of the firecracker before it explodes in their hands?

ALIMENTARY FEVER

During the season of acute gastrointestinal disturbances it will not be amiss to call attention to one special feature of this group of cases, which has only recently been investigated and rightly interpreted. Fever is an almost constant symptom of these cases, and has long been thought to be due to the absorption of bacterial toxins from the intestinal canal. No experimental proof of this toxicity has been brought forward; it has merely been assumed that such was the case, on the ground that when there is fever there must have been bacterial products absorbed.

The predominance of the bacterial factor in the etiology of the acute gastrointestinal disturbances of infancy is well brought out in the research of the Rockefeller Institute on the *Bacillus dysenteriæ.* It is to Finkelstein[1] that we are indebted for showing us that in a large percentage of cases this fever is due primarily, not to bacterial products, but to the food itself. His work on the etiology of intoxication (cholera infantum) seems to bring out clearly the fact that the two elements in the milk which produce fever are the sugar and the salts. He was able to show that by increasing the amount of sugar in the diet of a slightly deranged infant all of the symptoms of cholera infantum—the fever, the coma, the frequent stools, the marked drop in weight, and the lactosuria—could be produced. In like manner he showed that the reduction of the sugar, or in the severer cases, the withdrawal of all food for from twenty-four to forty-eight hours would make the fever disappear. He noticed also that when broth was given to these sick infants instead of boiled water, they often reacted with a marked rise in temperature. It remained for Meyer[2] to show experimentally that salt solutions given by mouth could produce fever in infants with slight gastrointestinal disturbances. Sodium chlorid has the most marked pyrogenic effect. Sodium bromid and iodid also have this property; the other sodium salts have little if any pyrogenic action, and the same is true of the potassium salts. Calcium salts on the other hand have a depressing effect on the temperature, according to Schloss.

The value of this contribution outside of its scientific interest in the study of aseptic fever, lies in its great clinical importance. Normally the temperature of an infant varies between 98.2 and 98.9. A rise above 99 must always be considered with suspicion when associated with other gastrointestinal symptoms. Thus, when by careful physical examination infections can be excluded as the cause of fever, its presence is one of the earliest and surest indications of an impending intoxication. A fever that does not disappear in from twenty-four to forty-eight hours on a water diet cannot be considered an alimentary fever, although one frequently has the combination of alimentary and infectious fever.

Current Comment

UNIFORM STATE LAWS

The National Civic Federation is establishing an organization in each state in order to secure uniform state legislation. This is one of the results of the national conference held in Washington last January for the promotion of uniform legislation. Mr. Ralph M. Easley, chairman of the executive council of the federation, says: "When one considers the chaotic clashing of the laws in the forty-six states on so many important and vital questions of the day it is a matter of wonder that business has been able to proceed at all. To promote and facilitate the business of the country and better understanding between states concerning legislation, if not a complete uniform legislation, is regarded by serious-minded business men as one of our urgent problems to be solved." This effort in the direction of uniformity of state legislation on matters essential to the successful conduct of business is a most gratifying evidence of progress. In such a consideration the laws regulating health should by no means be overlooked. A progressive and uniform system of state laws on the public health with a national bureau or department organized in harmony with such a system will go far toward solving many of our sanitary and economic problems.

PUBLICITY AND PUBLIC HEALTH

The theory has been advanced that one potent cause of civic unrighteousness in the United States is the attitude of public opinion toward the subject of unpleasant truths. Perfectly justifiable criticisms of indefensible health conditions in our cities are met with the sneer that the critic is a "knocker" and that no good citizen can be anything but a "booster." The result of this state of mind is that those who would call attention to ills that are crying for remedial action, keep silent. Such a policy of ostrich-like blindness to evils may be excusable in a frontier town to which quantity of population is the only object in view, but in long-established, conservative towns and cities such a position is an anachronism. Nevertheless it is the commonest of civic faults. It is refreshing, therefore, to see the mayor of a city come out boldly and announce that he heartily approves the fullest publicity regarding the health conditions of the city of which he is chief executive officer. This is what Mayor MacRae of Wilmington, N. C., has recently done. It seems that the death-rate in Wilmington has been high and that typhoid fever is very prevalent. In a three-column article the mayor tells some unpleasant but necessary truths about sanitary conditions in his city and he makes suggestions for bettering them. No sugar coating is added to the rather bitter pill unless it be the comparison which shows that the death-rate in a sister city is even higher. The mayor has received the support and assistance of one of the local newspapers, the *Evening Dispatch*, which states the naked truth in an unsensational but vivid way. This paper has also enlisted the services of a number of local physicians, who through its pages are discussing health matters with a freedom that augurs well for the city. The thought that exposure of evils that exist may "hurt" the reputation of the town is put aside as an unworthy one and the broader view is taken that by making Wilmington one of the healthiest cities in that section of the country a far more enduring monument will have been raised to the city's well-being. Wilmington is to be congratulated on having a far-sighted mayor, a progressive newspaper and an enlightened public—which makes the other factors of value. There are no doubt hundreds of cities whose health conditions are as bad as those in Wilmington and which will continue to be sanitary plague-spots long after this North Carolina town has become a model of sanitation. Would that there were more city executives like MacRae and more newspapers like the Wilmington *Evening Dispatch*.

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[1] Finkelstein: Deutsch. med. Wchnschr., 1909, xxxv, 191.

[2] Meyer, Deutsch. med. Wchnschr., 1909, xxxv, 194.

CRIPPEN—QUACK AND FUGITIVE

The press of two continents is wrought up over the disappearance of a Dr. H. H. Crippen who is now wanted by the London police on the charge of having murdered his wife. Crippen, who has been quacking it for a few years past in London, appears, according to the medical directories, to be a graduate (1884) of the Homeopathic Hospital College of Cleveland, Ohio. In 1886 his address was given in the directory as 8 Madison Avenue, Detroit. In the 1890 edition of the directory we find him at 955 Fifth Street, San Diego, Cal., while in 1893 Crippen had crossed the continent and was living at 78 Maiden Lane, New York City. In 1896 we find his address 1501 Arch Street, Philadelphia, while subsequent editions of medical directories of the United States do not contain his name. It was at that time, apparently, that he went to London, where he became the "physician" for a quack concern known as the Drouet Institute for the Deaf. This "institute" was originally established in Paris by a Britisher named Derry. To keep within the French law it became necessary to secure the services of a renegade qualified practitioner whom Derry found in a broken-down physician named Drouet, who died soon thereafter. The concern started in a small way, advertising to cure deafness with a mixture that Derry and his wife concocted and put on the market. Drouet furnished the medical nomenclature to catch the dupes and Derry furnished everything else. In five years Derry was making $200,000 a year and advertising heavily. A branch office was opened in London and "H. H. Crippen, M.D. (U. S. A. 1884)" was put in charge. The British branch never did as much business as its Parisian prototype, and *Truth*, which exposed this fake, unkindly suggested that the reason for the lesser success of the London branch was that possibly the English people keep their ears cleaner! Whatever the reason, Crippen's part of the organization did not prove as successful as Derry's. The decline of the Drouet Institute dated from the death of Derry, who passed away by the delirium tremens route, after having dissipated his fortune in gambling and drinking. His widow was left penniless. After the fall of the "institute," Crippen seems to have conceived the idea of running a similar fake under another name and he opened what he was pleased to call the Aural Remedies Company in London, with his "special absorbent treatment" as a leader. His methods, it seems, were practically those of the defunct Drouet Institute, which a noted British judge—Justice Matthew—designated as "a disgraceful institution carried on for unworthy objects by discreditable means." Now, it seems, the Aural Remedies Company has gone the way of the Drouet concern, while its originator bids fair to meet an end even more notorious than that of the founder of the French fake.

THE LEAGUE GETS ANOTHER DEFENDER

That the "National League for Medical Freedom" is fulfilling its "manifest destiny" is evident. One of its latest champions is Leach of Indianapolis, the "cancer curer," whose profitable and conscienceless business was interfered with by the postal authorities and by exposures in The Journal. In a leaflet which Leach sends out to prospective victims he quotes some of the unedifying slush which the *New York Herald* had to say about the "doctors' trust" when it took up the cudgels for the "league." He complains, too, that he loses a number of victims nowadays because "family physicians, who belong to the doctors' trust," persist in confronting possible patients of Dr. Leach with the articles that have appeared in The Journal. And then he wails, "many of them, without further evidence, immediately drop correspondence with me and surrender their cases to the doctors' trust." Probably this "cancer curer" hopes to find in the "National League for Medical Freedom" that appreciation for his talents which he has not been accorded by those who see nothing to admire in humbugging and defrauding the hopelessly ill.

OFFICIAL WARNING AGAINST QUACKS

A paragraph in the Chicago papers of recent date called attention to the fact that the bureau of food inspection was issuing an official warning against quacks. Such a flagrant case of paternalistic interference with the personal liberty of the individual seemed to call for further investigation. The latter part of the paragraph in question, however, set at rest any misgivings that might have arisen, for it was there stated that the "quacks" referred to were "posing as qualified to test cows for tuberculosis." That, of course, put a different complexion on the matter. There can naturally be no objection to protecting cows against the machinations of the quack—because cows cost money.

Medical News

ALABAMA

Degrees Conferred.—The University of Alabama has conferred the degree of LL.D. on Dr. William C. Gorgas, chief sanitary officer at Panama. Dr. Gorgas is a native of Alabama. At the meeting of the Jefferson County Medical Society Dr. Gorgas delivered an illustrated lecture on "Sanitation and Work of the Health Department in Panama."——Dr. Luther L. Hill, Montgomery, also had the degree of LL.D. conferred on him by the university in recognition of achievements in heart surgery.

ARKANSAS

State Board Examination.—At the meeting of the State Board of Examiners in June, 74 physicians were granted license to practice in Arkansas.

Board Organization.—Among the members of the new Hot Springs Medical Board recently organized are Drs. Charles Dake, Edward H. Martin and William E. Parker. The government representative on the board is Maj. George D. Deshon, commanding officer of the Army and Navy Hospital at Hot Springs.

New Medical Director.—Major Harry M. Hallock, Surgeon U. S. A., retired, has been appointed medical director of the Hot Springs reservation. The position is a new one, having just been created by the Secretary of the Interior on the recommendation of a government official who investigated conditions at Hot Springs. Dr. Hallock will have supervision of hygiene and sanitation of the baths and of the resort and will instruct bath-house operators and attendants in these matters.

Power to Revoke License.—In the case of the state board against Dr. A. S. McCrary, Little Rock, the Supreme Court, in a decision handed down June 27, has decided that the State Board of Medical Examiners have authority to revoke a license to practice medicine in Arkansas in any case where they find that the practitioner has publicly advertised special ability to treat or cure chronic or incurable diseases, thus upholding the law enacted by the last legislature. The state board will now inaugurate a crusade against physicians in the state who have been thus advertising.

For Prevention of Blindness.—The Arkansas Association for the Prevention of Blindness was organized at Little Rock, July 1. W. B. Fletcher, of Lonoke, was elected president. Among the physicians and others interested are Drs. John R. Dibrell, Morgan Smith, Ida J. Brooks, Anderson Watkins and Joseph T. Clegg, the attorney general of the state and many other prominent citizens. Dr. Charles F. Campbell, director of the work of the Pittsburg Association for the Prevention of Blindness, was the principal speaker. He congratulated Arkansas on having such an admirable school for the blind.

COLORADO

Personal.—Dr. and Mrs. F. N. Cochems, Salida, have gone to Europe for the summer.

Hospital News.—The Children's Hospital, Denver, has rented the property adjoining the hospital grounds, and will occupy it as a home for their nurses.——The Florence Crittenden Home has opened a hospital annex for treatment of women and children. The hospital is in charge of Dr. Agnes Ditson, obstetrician to Crittenden Home.——The National Jewish Hospital for Consumptives has purchased a site for the erection of a trade school building. The hospital now maintains a grammar school and teaches certain handicrafts.

CONNECTICUT

For Better Dispensary Work at Yale.—Dr. George Blumer, dean of Yale Medical School, writes that $25,000 has been received from an anonymous donor for the purpose of increasing the efficiency of the dispensary service. He states also that a movement is on foot to raise an endowment fund for the medical school.

ILLINOIS

Chicago

Campaign Against Typhoid.—In the campaign against typhoid being conducted by Dr. L. L. Lumsden, of the U. S. Public Health and Marine-Hospital Service, in connection with the city health department, Dr. Lumsden has issued a pamphlet detailing what may be done by the mayor and city council of cities in eradicating typhoid fever. He says that the health department of a city has not heretofore been regarded by politicians as a political asset of value, but at the present time a candidate for reelection to a city office can point unhesitatingly to his achievements in protecting the health of the people and advance this as an excellent reason for his continuance in office. He urges that in the mapping out of health policies of the city, funds for sanitary improvements should be appropriated as liberally as the tax rate will permit, and states that a good sewerage system and good water supply are certainly among the most vital important things to be provided for. The health department is now prepared to make blood cultures in all suspected cases of typhoid fever. The work is being done by Bacteriologist William A. Starin under the supervision of Professor Jordan of the University of Chicago. On receipt of a request by the typhoid fever bureau, a bacteriologist will be sent to the patient's bedside within twenty-four hours to take the specimen. This method gives the maximum information in the earliest stages of the disease. Among the healthgrams of the last *Bulletin* of the health department is this: "The three (dis) graces—filth, flies and fever."

IOWA

Higher Entrance Standard.—Official word from the State University of Iowa says that this fall and hereafter in addition to a four year high school education, two years of collegiate work, including courses in physics, inorganic chemistry and biology will be required for admission to the College of Medicine and to the College of Homeopathic Medicine.

Personal.—Dr. John H. Peck has been appointed to the chair of physical diagnosis and clinical microscopy at Drake University. Dr. Ira N. Crow, of the staff of the department of anatomy, has resigned.——Dr. Lawrence Patterson, Des Moines, has secured an appointment as physician for a large plantation in the Hawaiian Islands.

MARYLAND

Personal.—Dr. Jesse C. Coggins, medical director of the Laurel Sanatorium, has gone to the Pacific coast.——Dr. J. H. Spicer, Cumberland, has been appointed resident physician at Grace Hospital, Detroit.——Dr. Thomas K. Conrad, Chevy Chase, was on July 12 appointed health officer of that place.——Dr. Francis E. Harrington, of Washington, D. C., has been selected as city bacteriologist and health officer of Cumberland.——Dr. G. L. Broadrup, Cumberland, was severely injured by being run over by his automobile. He cranked the machine on a hill while it was in gear.

Baltimore

To Aid in Poison Cases.—Dr. C. Hampson Jones, Assistant Health Commissioner, urges that the city employ an expert chemist who can be called on by the coroners in cases of suspected poison. In Maryland no provision is made for analysis of the stomach contents unless there is positive evidence of poisoning.

Personal.—Dr. E. H. Richardson, resident gynecologist of the Johns Hopkins Hospital for the past four years, was entertained at dinner by his colleagues of the hospital staff, on the occasion of his retirement. He will practice here. His successor is Dr. E. K. Cullen.——Dr. Christian Deetjen has sailed for Europe to attend the International Congress of Medical Electricity.——Dr. W. Milton Lewis, who was operated on some weeks ago at Union Protestant Infirmary, has gone to Cape May to convalesce.——Drs. A. Samuels and G. Halsted Boyland have sailed for Europe.——Dr. Arthur J. Traveira, after a visit north, will visit Spain and Portugal.

State Lunacy Commission.—The After-Care Committee met at the rooms of the State Lunacy Commission, July 19, when plans were formed for the after-care of persons discharged as cured from hospitals for mental diseases. The plan was put into effect in this state July 22. Patients are paroled from the asylums, but kept under observation by physicians working with the commission. The plan will not only benefit the patients themselves, but will make room for others in the state hospitals. At present every bed is occupied and there is no other way of providing new accommodations except this until the new buildings are ready for occupation. This will be about a year and a half. The patients liberated will be provided with cards stating what days they shall report at the office of the commission. The staff of the hospitals will cooperate. If the patients improve under parole, they will finally be discharged. If they improve sufficiently to work, they will be assisted in getting it and will be held under supervision until cured entirely. Any who retrograde will be sent back to the institutions. The $600,000 appropriated for new buildings by the late legislature does not become available until next January and building operations cannot be begun till then.

NEBRASKA

Personal.—Dr. R. S. Horton, Omaha, has been appointed city physician.——Dr. C. Frederick Stockert, Nebraska City, has gone to Europe.——Dr. William H. Johnson, convicted of criminal practice at Lincoln, has been sentenced to the penitentiary for two years.

Society Organization.—Physicians of Red Willow County have completed a county organization with the following officers: President, Dr. William E. McDivitt; vice-president, Dr. Emma M. Easterday; secretary-treasurer, Dr. Charles L. Fahnestock, and chairman of the board of censors, Dr. Julius A. Toren, all of McCook.

NEW HAMPSHIRE

Gift of a Nurses' Home.—The Exeter Hospital has recently received from Hon. Edward J. Tuck of Paris, France, an additional bequest in form of a nurses' home.

Personal.—Dr. P. Challis Bartlett, superintendent of the State Sanatorium at Glencliffe, has resigned to take charge of a Massachusetts sanatorium. Dr. John E. Runnells has been appointed to succeed him.——Dr. Charles S. Little, for several years superintendent of the School for Feeble-Minded Children at Laconia, has resigned to assume the superintendency of a similar institution in New York state. He is succeeded at Laconia by Dr. Benjamin W. Baker of Manchester.

NEW YORK

New York City

Brooklyn Charities Profit.—The will of Charles H. Armstrong, of Greenwich, Conn., leaves the Seney Hospital, of Brooklyn, $50,000 and the Methodist Home for Aged People $5,000.

Ice-Cream Cones Analyzed.—Following the recent announcement of the seizure of two consignments of ice-cream cones by the government the board of health has taken up the matter and subjected a number of specimens to analysis. The action of the board will depend on the laboratory findings.

A New Polyclinic.—Plans have been filed for the new building of the Polyclinic Hospital to be erected on Fiftieth Street between Eighth and Ninth Avenues. The building will be eleven stories with basement and subbasement, and will be about 96 feet square. This building will cost $50,000, will be modern, and will be so constructed that three stories can be added later.

Off for Europe.—Among those who have recently sailed for Europe are the following: Dr. and Mrs. Philip Embury, Dr. George M. Dillow, Dr. and Mrs. H. H. Tinker, Dr. and Mrs. Clifton Edgar, Dr. Carlos F. MacDonald, Dr. and Mrs. Robert J. Bell, and William I. Spiegelberg, president of the Sydenham Hospital, who will study public and private hospitals and ambulance services.

Mortality Increases.—The death rate for the week ending July 16 shows an increase of 2.91 per 1,000 population, or 308 more deaths than during the same week of last year. Two-thirds of the increase was due to deaths from children's diseases, the number jumping from 251 last year to 445 this year. Of this increase 191 were children under five years of age. The total number of children who died was 785, or 46 per cent. of the total deaths at all ages.

Infant Mortality in Brooklyn.—A committee consisting of Drs. Louis C. Ager, John W. Parrish, LeGrand Kerr and Archibald Smith, appointed by Dr. Lederle to investigate the reasons for the higher mortality among infants in Brooklyn, report that it is their belief that differences in the character of the soil and sewage provisions between Brooklyn and Manhattan account for the higher death rate in the former borough. Manhattan is comparatively all rock and the disposal of sewage is comparatively easy. According to this committee another reason why fewer babies die in New York is because of the efficient work of the numerous relief agencies interested in this cause.

OHIO

Systematic War on White Plague.—The board of health of Cleveland has formally endorsed a bond issue of $250,000 for a tuberculosis hospital. District dispensaries will also be opened, following the plan which has been successful in Boston.

Preliminary Requirements in Ohio.—At a meeting of the Ohio State Medical Board, July 5, it was decided to withdraw recognition from any Ohio medical college which did not require of every matriculant a certificate of admission issued by the entrance examiner of the board. It was further decided that all colleges should file with the secretary of the board a complete list of matriculants on or before November 15 of each year. Dr. G. H. Matson, the secretary, says that the above ruling is to insure that a proper preliminary education has been secured before the medical course is begun, since the latter is now too exacting to permit of secondary studies being taken at the same time.

Personal.—Dr. Henry McElderry Knower has been appointed professor of anatomy in the Ohio-Miami Medical College, medical department of the University of Cincinnati. Dr. Knower was associate in anatomy in Johns Hopkins Medical School and then assistant professor of human anatomy at the University of Toronto.——Dr. Edwin W. Mitchell has gone abroad and will return with Dr. Frank B. Cross, who left early in May.——Dr. Charles E. Howard, Cincinnati, has been appointed receiving physician at the city hospital, in place of Dr. Robert D. Mussey, resigned.——Dr. Addison D. Hobart has been named to succeed Dr. Dale Wilson as one of the city poor physicians of Toledo.——Drs. Edward F. Cushing and James E. Cogan have been named on the health board of Cleveland.——Dr. John D. Westrick has been appointed on the board of health of Defiance.——Dr. Arthur Vos was operated on for appendicitis, July 14.——The Board of Health of St. Bernard elected Dr. H. C. Krumpelbeck health officer for one year.——The trustees of Cincinnati Hospital appointed Dr. Albert J. Bell physician in charge of the new group of contagious disease buildings. It is expected that these buildings will be ready for occupancy by the first of October.

OKLAHOMA

Oklahoma in Registration Area.—Dr. John C. Mahr, president of the State Board of Health, has made application to Dr. Cressy L. Wilbur, chief statistician, Washington, D. C., to have Oklahoma included in the registration area of vital statistics of the United States.

Personal.—Dr. Horace Reed, of the University Medical School, has just returned from a year's stay in the hospitals abroad.——Dr. Archa K. West has been chosen president of the Oklahoma City Good Government League.——Dr. Lewis J. Moorman, Oklahoma City, has returned after a year in the hospitals of Vienna.

Commencement Exercises.—At the commencement exercises of Epworth College of Medicine, Oklahoma City, seven physicians were graduated. This will be the last graduation, on account of the consolidation with the State University School of Medicine, which latter school has established a third and fourth year in medicine, hitherto having only two years in medicine.

OREGON

Tuberculosis Hospital.—In connection with the proposition of Dr. George W. Turner to establish a tuberculosis sanatorium at Mount Tabor, Sister Mary Theresa, manager of the St. Theresa Open Air Sanatorium, Oak Grove, has offered a free site for the erection of a hospital for this purpose.

Work of the State Health Board.—The Oregon State Board of Health has begun a systematic campaign of education of the public in health matters, including the use of newspapers, special bulletins and lectures. A health car will be attached to the trains used to teach the farmers in agricultural matters.

Society Meetings.—The nineteenth annual session of the Southern Oregon Medical Association met at Medford recently and elected the following officers: President, Dr. Francis G. Swedenburg, Ashland; vice-president, Dr. Cora B. Lemon, Grants Pass; and secretary-treasurer, Dr. Alvane Seely, Ashland.——The Eastern Oregon District Medical Association met in Pendleton July 6 and 7. Dr. S. W. McClure, chief of the bureau of animal industry in the northwest, spoke on the transformation of bovine tubercle bacilli into the human form, and in regard to the prevalence of tuberculosis among fowls in Oregon. He stated that tuberculosis is intercommunicable between different kinds of animals and birds. The following officers were elected: President, Dr. Edward O. Parker, Pendleton; vice-presidents, Drs. L. M. Madden, Weston, and Jacob Prinzing, Ontario; secretary-treasurer, Dr. Thomas M. Henderson, Pendleton, and member of the board of censors, Dr. Frederick R. Dorn, Echo.

PENNSYLVANIA

Personal.—The managers of the Pennsylvania Epileptic Hospital at Oakburne elected Dr. Samuel W. Morton to succeed the late Dr. Wharton Sinkler as secretary.

Women's Medical College to Build.—A building to be erected in the rear of the college hospital, will contain a clinical amphitheater for 125 students, with a waiting room for patients, sterilizing, etherizing and recovering rooms, a doctor's room and a room for students. The structure will be two stories high and will cost approximately $22,000.

New Reportable Diseases.—The State Board of Health has issued notices to the physicians of the state, requesting them to report uncinariasis (hookworm), pellagra and infantile paralysis as communicable diseases and called their attention to the laws of the state regulating such reports. An endeavor will be made to isolate and to study these diseases which have attracted such wide attention in the past few years.

Rabies Prevalent in Cattle.—Nine cows have been killed recently as the result of an epidemic of rabies which seems to be spreading over East Nottingham Township, a short distance from Oxford. The entire township is greatly excited over the prevalence of the disease. A large number of cows and horses, and nearly every dog in the township, are under a strict quarantine. State Veterinarian S. H. Gilliland is conducting an investigation.

Department of Abnormal Psychology.—Announcement has been made that the University of Pittsburg will establish in connection with its medical department a laboratory and school for the study of backward children. The scope of the work will include psychologic studies of mental defectives and delinquents, both children and adults, epileptics and the nervous unfit of all kinds. It will also include work in the university laboratories and the training of nurses and prospective teachers in work of this kind. The work will be under the direction of Prof. J. H. White of the department of psychology, Dr. Edward E. Mayer of the department of neurology, and Dr. E. Bosworth McCready will be the medical director. The school is to be called the Hospital School for Backward Children.

Infantile Paralysis at Bethlehem.—Until a few days ago there were twenty-one well-developed cases of anterior poliomyelitis reported at Bethlehem and vicinity. The epidemic has caused widespread interest and renewed efforts are being made to discover the cause of the disease. Commissioner Samuel G. Dixon and Drs. Royer and Fox, of the State Board of Health, are pursuing a thorough investigation of every case reported. In only one instance has there been any circumstances indicating that the disease may be of an infectious character. A child 2½ years old was stricken with paralysis shortly after using milk from a herd in which one of the cows had lain in pasture for several days with paralysis of the hind-quarters. A week later the child was taken sick and developed a paralysis of the right leg and left arm. There has been but one death from the disease in the past few weeks. Dr. Charles K. Mills of Philadelphia and Dr. Paul Lewis of Phipps Institute are conducting personal observations of the outbreak. Dr. Simon Flexner of the Rockefeller Institute, New York, will study the cases.

Philadelphia

Personal.—Dr. George Bachmann, demonstrator of physiology at Jefferson Medical College and physiologist to the Jefferson Hospital, resigned to accept the professorship of physiology at the Atlanta College of Physicians and Surgeons.——Dr. Victor Baker, resident physician at Frankford Hospital, was operated on for appendicitis July 17.——Dr. Charles K. Mills addressed the Lehigh Valley Medical Association at Delaware Water Gap, July 21.

Mortality Increases.—Statistics show an increase in the general mortality from 13,264 to 14,425 for the first six months of the present year, an increase of about 9 per cent. as compared with 1909. This increase is made up largely of deaths from diseases of the lungs, particularly pneumonia, and of intestinal diseases in children under 1 year of age. Of the more important diseases the difference in percentage over 1909 for the six months ending June 30, was as follows: Typhoid fever, decrease, 28; measles, decrease, 68; scarlet fever, increase, 27; whooping cough, increase, 81; diphtheria, decrease, 15; influenza, decrease, 4; cerebrospinal meningitis, decrease, 80; rabies, increase, 200; tetanus, decrease, 70; tuberculosis of the lungs was practically the same. Other forms of tuberculosis increased 3 per cent.; apoplexy increased 28 per cent.; heart disease increased 15 per cent.; pneumonia increased 30 per cent.; Bright's disease decreased 2 per cent.; Bright's and enteritis increased 67 per cent.; suicide increased 2 per cent.; cancer increased 3 per cent.

TENNESSEE

College Suspended.—By action of the trustees of the University of Chattanooga, so it is reported, the relationship between that university and the affiliated Chattanooga Medical College has been cancelled, and the medical college has been suspended. There is talk of a new college being organized in its stead.

Personal.—Dr. William N. Lynn has been appointed superintendent of the Lincoln Memorial Hospital at Knoxville, vice Miss E. L. Westover.——Dr. May F. Jones, Columbus, Miss., has assumed the duties of superintendent of the recently formed Civic League Hospital at Memphis.——Dr. Gilsey Saunders has been appointed health officer at Jackson.——Dr. Walter R. Wallace has become associated with Dr. George E. Pettey in the sanitarium at Memphis. A forty-room addition has been built.——Dr. John S. B. Woolford, Chattanooga, sailed for Europe July 16.

Society Meetings.—The thirty-second annual session of the Middle Tennessee Medical Association convened at Nashville recently. The following officers were elected: President, Dr. Ernest M. Holmes, Readyville; vice-president, Dr. John W. Stevens, Nashville; and secretary-treasurer, Dr. R. Logan Jones, Nashville (reelected).——The West Tennessee Medical Association met at Nashville recently and elected the following officers: President, Dr. David A. Walker, Trenton; vice-presidents, Drs. Alexander H. Moody, Dyersburg, and William T. Black, Memphis, and secretary, Dr. Isaac A. McSwain, Paris (reelected).——The fifth annual meeting of the State Colored Physicians' Medical Association occurred at Knoxville, June 22 and 23. Nearly one hundred physicians were in attendance. Chattanooga was chosen as the place of next meeting. The following officers were elected: President, Dr. Henry M. Green, Knoxville; vice-presidents, Drs. J. D. Frierson, Chattanooga; Joshua S. Williams, Franklin, and W. T. Prater, Memphis; recording secretary, Dr. I. H. Hampton, Fayetteville; assistant secretary, Dr. W. H. Astrapp, South Pittsburg; corresponding secretary, Dr. A. M. Townsend, Nashville; treasurer, Dr. J. B. Singleton, Nashville, and statistician, Dr. J. A. Gregory.

UTAH

Salt Lake City

Cancer.—While the increasing prevalence of cancer is generally admitted it is not often reported as a leading cause of death in any community. Such was reported to be the case, however, in Salt Lake City in May. According to the health officer, the deaths from cancer outnumbered those from any other single cause, exceeding those from tuberculosis.

Personal.—Dr. John M. Spaulding has been appointed police surgeon, under the direction of Dr. Samuel G. Paul, city health commissioner.——Dr. John Sundwald, professor of anatomy in the University Medical School, is in Europe.——Dr. J. W. Calkins was seriously injured in an automobile accident recently.——Dr. T. H. Glenn has been made bacteriologist in Northwestern University Medical School, Chicago.——Dr. Frederick Stauffer is in Vienna.——Dr. Augustus C. Behle has gone to Germany for a long stay.

VIRGINIA

Addition to Hospital.—A $26,000 addition to the Protestant Hospital at Norfolk was opened recently.

Personal.—Dr. Robert L. Payne, Norfolk, has been appointed chief surgeon of the Norfolk Southern Railway.——Dr. Robert G. Heiner has been assigned as physician to the Navy Hospital at Norfolk.——Dr. J. Edward Brumbach, who was a *resident* at the Maryland General Hospital, Baltimore, has been appointed an assistant resident of the Eastern State Hospital, Williamsburg.

Health Officers Organize.—The health officers of eastern Virginia met at Norfolk and organized the Association of Health Officers of Tidewater. Dr. Henry R. Dupuy, health commissioner of Norfolk, was elected president; Dr. Thomas J. Pretlow, Newport News, vice-president, and Dr. Herbert R. Drewry, Norfolk, secretary. The association will hold monthly meetings.

Work of State Board of Health.—The State Board of Health met at Richmond July 15 and reorganized under the new health law passed by the recent session of the legislature. Dr. William M. Smith, Alexandria, was elected secretary to succeed the late Dr. Samuel Peachy Latane, Winchester. The board formulated regulations concerning the reporting and quarantine of infectious diseases, disinfection and sanitation of public school buildings, railway coaches, stations, theaters, etc., in accordance with the new law.

University Medical College to Rebuild.—It is reported that the University College of Medicine has determined to erect a new medical building in place of the one destroyed by fire last January. The estimated cost of the new building is $100,000. Thus Richmond is still to have two medical colleges.——At the meeting of the faculty and trustees, July 16, all the members of the faculty resigned in order to leave the board of trustees free to readjust the professorships so as to meet the needs of the curriculum. Only a few changes were made in the personnel but some transfers were made. Dr. Stuart McGuire continues to be the president of the faculty.

Society Meetings.—The Medical Society of Northern Virginia and the District of Columbia met at Manassas recently and elected the following officers: President, Dr. A. Barnes Hooe, Washington, D. C.; vice-presidents, Drs. Edwin L. Detweiler, Herndon, and Powhatan Moncure, Bealeton; recording secretary, Dr. Arthur G. Coumbe, Vienna, and corresponding secretary, Dr. Charles S. White, Washington, D. C.——Shenandoah County Medical Society, at its last meeting, was addressed by Dr. Harvey W. Wiley, Washington, D. C. The following officers were elected: President, Dr. Durus D. Carter, Woodstock; vice-presidents, Drs. Mackall R. Bruin, Strasburg, and David L. Shaver, Maurertown; secretary-treasurer, Dr. William F. Driver, Newmarket.

Dr. Stiles Addresses Conference.—At the meeting of the Rural Life Conference, held in Charlotte July 16, Dr. Charles Wardell Stiles, Washington, D. C., addressed the conference on hookworm. The newspaper account says: "Dr. Stiles stated that his work in the hookworm investigations for a number of years past had obliged him to live among the poorest of the poor in the poorest districts of the South, in fact, to become essentially one of them. In these homes of abject poverty, with many children inadequately clothed and fed, it was a common sight to see expensive patent medicines occupying a prominent place on the shelf. One family in South Carolina, whose bread-winner earned $15 a month, spent $6 of it in a patent medicine advertised under a tissue of lies. These poor people, suffering from insufficient food, malaria, hookworm and in thousands of cases from tuberculosis, were preyed on by a lot of liars who distribute a concoction of alcohol at an enormous profit to a people too ignorant and too sick to protect themselves."

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 16, 1910.

Death of a Victim to the X-Rays

The sad case of Mr. Harry W. Cox, an electrician and instrument maker, who worked with the *x*-rays and devised many instruments for their use in medicine, has been reported from time to time in previous letters to THE JOURNAL. Eight years ago *x*-ray dermatitis began on the left hand. At that time the dangerous nature of the affection was not understood and little notice was taken of it. Slowly the disease advanced and five years ago a finger had to be amputated. Gradually the left hand was also attacked and eighteen months ago the greater part of it, including three fingers, had to be removed. Still the disease progressed and last September amputation of the right arm was performed. In the meantime, Mr. Cox, undaunted, continued work and perfected many of his inventions. Finally the neck and face were involved and he died at his residence in London, July 14. While lying on his death bed he said: "I would gladly go through it all again to accomplish what I have been permitted for the benefit of my fellow men." So much sympathy did his case arouse that a fund of $14,000 was raised by public subscription for his benefit and the government made a grant of $1,000. His case is the most striking example of the dangers run by the earlier workers with the *x*-rays and shows the necessity of the precautions which are now adopted.

Medical Education for Hindus

The National Medical College of India has been founded for the medical instruction of natives who cannot afford the heavy fees of the recognized colleges which are state-aided. A very respectable list of examiners and professors is published which includes a number of lieutenant-colonels retired from the Indian Medical Service. The period of study is five years. The following diplomas will be awarded: 1. The F.C.P.S. (Fellow of the National College of Physicians and Surgeons), an honorary title to be conferred on scientists of distinction. 2. The M.C.P.S. (Member of the National College of Physicians and Surgeons). 3. The L.M.S. (Licentiate in Medicine and Surgery). 4. The D.P.H. (Diploma in Public Health), for health officers. The most remarkable feature about the college is the fact that professors give their services gratuitously. As the prospectus says: "We train our boys under the best masters with European and local qualifications, who labor for the college at a great sacrifice, the welfare of the scholars being their only reward." The fees constitute a record and are probably the lowest under the sun. They are as follows: Admission fee, Rs. 3 (about $1); for the L.M.S. class the same fee per month; for practical classes and dissections the fee for the session is Rs. 5.

A Steamer With Special Mosquito Screens

The Booth Steamship Company of Liverpool has despatched a boat on her maiden trip to the Amazon specially designed to cope with the mosquitoes which often fly aboard and cause malaria on that river and its tributaries. The steamer is designed purely for cargo which she carries to Port Velho, a town 600 miles up the Rio Madeiro, a tributary of the Amazon, on which the mosquito evil is so great that nearly the whole crew of steamers is sometimes laid up with malaria. The steamer is so screened that the living quarters of the crew are protected from mosquitoes. Each port-hole is provided with a movable screened frame so adapted that the port-hole can be closed and screwed down without withdrawing the screen. The entrances to the main deck are protected by wire gauze spring doors, and at each side of the ash-shoot, which is necessarily open to the ingress of mosquitoes, extra sets of screened doors are placed. The doors and port-holes of the outside bridge deck cabins are also screened. The doctor's quarters and hospital are situated further aft and are thoroughly screened. No old-fashioned water reservoir over the wash-basin is permitted in the cabins; running water is supplied. The slops from the basins run into pipes emptying directly over the side. The ventilator pipes in the cabins and along the alleyways are protected by a wire gauze screened frame. The steamer has been inspected by the medical advisory board of the African Committee of the Colonial Office and by Prof. Ronald Ross and is considered by them a great advance in the construction of ships plying in tropical waters.

Coroner's Law and Death Certification

A bill has been introduced into parliament, backed by several medical members, including Sir William Collins, to amend the antiquated law of coroner's inquests and death certification. As long ago as 1893 a committee of the House of Commons reported that reform was urgently necessary. The law relating to coroners is not adapted to modern necessities, its administration is costly, without being efficient. The law of death certification offers every opportunity for premature burial and every facility for the concealment of crime. Among the more important provisions of the bill are the following: No person shall be appointed a coroner unless he be a practicing barrister or solicitor of not less than five years' standing, or a registered medical practitioner who is also a barrister or a graduate in law. Medical investigators or pathologists are to be appointed to assist the coroner in his inquiries and to make postmortem examinations. It shall not be necessary for the jury to view the body, unless the coroner or a majority of the jury shall deem it necessary. At present the viewing of the body is obligatory and is to many jurymen very objectionable. Before giving a certificate of death a doctor must personally inspect the body and identify it as the person named in the certificate whom he has attended in his last illness and shall certify as to the fact of death as well as to its cause. At present the doctor is required to certify only as to the cause of death and can accept the fact of death from the friends of the deceased. He is not bound to view the body. The coroner is given power to hold an inquiry and have a postmorten examination made without holding an inquest, which he cannot do at present. A valuable reform is that instead of, as at present, giving the death certificate to the friends of the deceased for the purpose of registration the doctor is to mail it direct to the registrar. The present system leads to inaccurate certification. Thus to spare the feelings of the relatives such causes of death as syphilis and alcoholism are sometimes suppressed and only the name of the lesion, such as cirrhosis of the liver or apoplexy is given.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, July 15, 1910.

Preservation of Vaccine by Refrigeration

Dr. Kelsch, director of the school of military medicine and pharmacy, at Val-de-Grâce, read before the Académie de Médecine on July 12 a paper in regard to the influence of cold on the preservation of the activity of vaccine pulp. In collaboration with MM. Camus and Tanon, Dr. Kelsch made the following experiments: Two samples of vaccine pulp were deposited in May, 1909, one in a refrigerator maintaining a constant temperature of — 12 to — 15 C., and the other in an ordinary refrigerator kept at an average of + 5 to + 7 C. Then at the end of six months and a year, respectively, the samples were submitted to a comparative cytologic, bacteriologic, biologic and clinical analysis. The one which had been kept at + 5 had lost most of its activity at the end of six months and all of it at the end of a year. On the other hand, the other sample was still entirely active at the end of six months and a year. Excellent results were obtained in each of nine children who were vaccinated with this pulp. These results not only indicate the resistance which bacteria oppose to very low temperatures, but also point out a practicable means of providing vaccine against such occurrences as that in Paris in 1907, when the public was literally terror-stricken before the menacing epidemic.

Sale of Morphin without a Prescription

A pharmacist was recently prosecuted for having sold morphin without a prescription to a student in Nancy, through whom a companion obtained it and thereby became addicted to the use of the drug. The father of the victim brought suit for damages against the pharmacist who made the plea that he was responsible for his own act only, and not for that of the student who had procured the morphin for his companion. The court refused to sustain his plea and condemned the pharmacist to pay $20 (100 francs) as a fine, and $800 damages on the ground that a pharmacist who sells a poisonous substance without a prescription knowingly incurs the risk of whatever bad use may be made of it, whether by the person who buys it or by a third person.

Personal

Dr. A. Gilbert, professor of therapeutics at the Paris college of medicine, has been appointed at his own request, beginning Nov. 1, 1910, professor of clinical medicine, to replace Professor Dieulafoy.

Society of Abstaining Physicians

In connection with the first Congrès des abstinents français, which will meet on August 13 at Grenoble, some physicians have just formed the Société des médecins abstinents des pays latins.

A New Sign of Hydatid Cysts of the Convexity of the Liver

On July 5 at the Academy of Medicine Professor Chauffard drew attention to a new clinical sign that he has recently observed in a patient with an enormous hydatid cyst of the liver which came up to the third rib. The left hand being placed transversely in front at the level of the second and third right intercostal spaces, and the fingers of the right hand grasping the border of the right hepatic lobe, the cystic liver mass is agitated from top to bottom with a series of little oscillations. At each oscillation the left hand perceives a light concussion (*ballotement*), at the level of the tense and enlarged intercostal space. This sign can be obtained only in front and with the patient in a horizontal position. This superhepatic concussion, supplements the sign described last year by M. Chauffard for hydatid cysts of the convexity of the liver under the name of transthoracic wave (*flot transthoracique*, THE JOURNAL, July 24, 1909, p. 308).

The combination of the two modes of exploration permits, so to speak, the measurement of the cystic mass of the liver, the sign of the wave giving the antero-posterior diameter and that of the concussion the vertical diameter. The solid hypertrophies of the liver, even if they are very voluminous, do not appear to give the superhepatic concussion.

The Color of the Hair from a Judicial Point of View

M. Bertillon, head of the anthropometric service, has just established a table in which he has displayed at the Brussels exposition the scale of the colors of the hair so that they may be clearly distinguished. The expressions "light blond," "true blond," "dark blond," "light chestnut," "true chestnut," "dark chestnut," "chestnut black" and "black" have been assigned to fixed shades in regard to which there will be agreement everywhere hereafter. M. Bertillon has expressed this notation of colors by means of samples which have been furnished him by a large dealer in hair goods. He has collected a quantity of hair of all shades so as to be able to make a number of tables illustrating colors. These tables, which are in demand everywhere, will be sent to all the judicial services of Europe; thus it will hereafter be impossible to make an error in regard to the shades of hair since these will be the same in all judicial services.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, June 7, 1910.

Plan Suggested by Koch, Hitherto Unpublished, for Research on the Infectious Character of Bovine Tubercle Bacilli

The question which was raised anew by the address of Robert Koch at the London International Congress of Hygiene, as to how far bovine tubercle bacilli are present and produce tuberculosis in man, is not yet solved, but is still the subject of numerous investigations in the laboratories of different civilized countries. Koch himself was continuously occupied with this question, from the study of which he was prematurely removed by death. He had developed a plan for the investigation of pulmonary tuberculosis which has been presented to various investigators for their consideration. The precautions outlined, which have not hitherto been published, are as follows:

1. The consumptives whose sputum is to be examined must not eat any butter during the period of investigation for at least three days before each collection of sputum and must take only thoroughly boiled milk. The circumstances should be such that the examination can be repeated three times. The sputum should be deposited in sterilized receptacles in the morning before eating.

2. The examination of sputum should be repeated at least twice, at intervals of from 5 to 15 days, so that altogether three examinations are made.

3. The sputum is to be injected subcutaneously into four guinea-pigs in the neighborhood of the groin.

4. As soon as the inguinal glands of the inoculated guinea-pigs are so much enlarged that tuberculous processes are to be suspected in them, two of the guinea-pigs are to be killed and from each a piece the size of a hemp seed from the suspected tuberculous glands or from the substance of the spleen is implanted subcutaneously on a rabbit's abdomen. At the same time, cultures on glycerin serum are to be made from the same material.

5. The tubercle bacillus is to be cultivated in guinea-pigs until the type is determined.

6. Cultures on glycerin serum and inoculation of rabbits are to be made from the lungs and kidneys of such rabbits as die of generalized tuberculosis, or in which, on killing three months after the inoculation, progressive tuberculous processes are found. At the autopsy of the rabbit, special attention is to be paid to the regional lymph glands to determine whether they are tuberculous.

7. Two rabbits are to be injected subcutaneously with 0.01 gm. of a culture derived from the inoculated guinea-pig, suspended in 1 c.c. of physiologic salt solution.

8. If by the behavior of the cultures and the appearance of generalized tuberculosis in rabbits, the presence of bovine tubercle bacilli seems to be demonstrated, a further injection of 0.01 gm. of the culture should be made in the neck of a calf in order to exhaust all means of evidence. If exceptionally it shall have been impossible to obtain a pure culture, the tuberculous material from the rabbit must be applied to the inoculation of the calf.

9. In case bovine tubercle bacilli have been found in a consumptive, it is necessary to repeat the examination as often as possible. As soon as an opportunity for autopsy is furnished, various parts of the lung, the bronchial glands, the cervical glands, and the abdominal organs should be examined for bovine tubercle bacilli. In all such cases especial care should be taken to recognize a mixed infection with human tubercle bacilli.

In the same way the question is to be answered to what extent lupus owes its origin to infection with tubercle bacilli of the human or the bovine type. In this respect also Koch has worked out directions for obtaining and injecting the material. In this case the propagation of the particular race of tubercle bacilli in pure culture is necessary.

As a direct culture of tubercle bacilli from lupus tissues is not possible on account of their extremely small number, a multiplication of the tubercle bacilli in the bodies of guinea-pigs must precede the pure culture. The injection of the material into guinea-pigs should be made at the place where the material is obtained and as soon as possible, because the result of the inoculation becomes uncertain in case of a long delay between the removal and the inoculation.

As material for investigation, only such places of the lupus tumor are suitable as show clinically a progress of the disease in the form of fresh nodules; untreated cases furnish the best assurance of the success of the propagation. In old lupus cases which have been treated for a long time, it should be noted whether in addition to the lupus foci on the visible parts of the body which have been subjected to medical treatment there are not also lupus foci on other parts (back and extremity) which often are unnoticed by the patients and for that reason untreated.

In every case the pieces should be taken from the most recent and untreated parts of the lupus tissue at the border of the lesion. The size and number of the excised pieces of the skin must be determined according to the clinical picture of the case. The larger the piece of skin excised, or the greater the number of excised pieces, the more surely can a positive result be expected from the injection of the material in guinea-pigs. Sufficient material must in every case be taken for the inoculation of at least 2 guinea-pigs, so that for every guinea-pig a piece of about the size of a hemp seed is available; if possible 3 or 4 guinea-pigs should be inoculated. In patients with lupus foci in different parts of the body, material for examination should be separately removed from each focus of the disease and injected separately into at least 2 guinea-pigs each.

In the case of simultaneous injection of material from several patients or from several foci in the same patient, the inoculated guinea-pigs should be distinguished by permanent marks (for instance, by distinguishing staining with carbol-fuchsin on the head, neck, back or extremities).

The inoculation of the guinea-pig is done in the following manner: In the middle of the flat portion of the abdomen, the hairs are cut short in a place as large as a mark piece (silver quarter); here after rubbing with alcohol, a cut is made in the skin through which the point of the shears or a pair of forceps are pushed and into the little pocket thus made in the skin, the material under investigation is introduced by means of forceps. The wound in the skin is closed with collodion. Observation of the most careful asepsis is strictly essential; especial care must be taken to see that the instruments are changed with the injection of each new sample of material. Inoculated guinea-pigs are to be sent immediately after the injection to the Berlin institute for infectious diseases (Berlin N, 39 Föhrerstr. 2.), accompanied by a report containing a brief record of the name, age, sex, and occupation of the patient, situation, age, and clinical picture of the lupus, as well as of the previous treatment, source of infection, and other forms of tuberculous foci, and a protocol of the animal inoculation.

Personal

Professor v. Strümpell, director of the third medical clinic at Vienna, has accepted a call as the successor of Curschmann. Among the factors influencing his decision to exchange Vienna for Leipsic were the uninspiring conditions of his Vienna clinic and the wish to return to his paternal city and to work in the place of his teacher, Ernst Wagner. Strümpell was called from Leipsic to Erlangen as professor, and for many years conducted the medical clinic there. From there he went about six years ago to Breslau and from there two years ago to Vienna. When von Leyden's chair became vacant three years ago many expected in vain that the Berlin faculty would place Strümpell's name on the list of candidates to succeed Leyden. I believe that to-day our faculty has reason to regret that it did not secure this distinguished clinician and highly honored man as one of its members.

General Medical Officer Dr. Vollbrecht has received a call to Constantinople to reorganize the very imperfect sanitary conditions of the Turkish army.

July 1, Professors Langgaard and Rabow resigned the editorship of the *Therapeutische Monatshefte*. In conjunction with Professor Liebreich they founded this journal about thirty years ago. Now they have been compelled to yield to younger talent.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, July 12, 1910.

Strümpell Leaves Vienna

The half-hearted way in which the requests of Professor Strümpell for modern outfit for his clinic were met by the authorities has had an unexpected result. The professor has "given notice;" he will leave his post at once to accept the appointment of clinical professor in Leipsic, as successor of Curschmann. To understand the sensational effect of this decision, one must understand that Strümpell had been won for Vienna only with great difficulty, and that promises had been made to him, which if fulfilled, would have enabled him to develop the third Vienna medical clinic according to his ideas. When he took over this present office a year and a half ago, as successor of Schrötter, he was received with the greatest pleasure by the students, who wanted to obtain a first-class teacher. Numerous bureaucrats and professors who thought it unnecessary to call another man from Germany, were less pleased with his appointment. And von Strümpell always found that he was regarded as an outsider by many men. Among the students, however, he was much beloved and respected, and his patients always praised his kind and benevolent manners. Strümpell's idea was to make Vienna a Mecca of first-class clinical teaching. Instead of being assisted in every possible way by the authorities, he has been hampered all along. Naturally, he lost all pleasure and seized the first opportunity to leave a place where his abilities were not regarded as sufficient to warrant a little disregard of routine and red tape in monetary questions. His loss is another sign that science cannot hope to progress if bureaucracy is prevalent.

The Question of the Successor of Zuckerkandl

The anatomic institute has been left without director by the death of Professor Zuckerkandl, but his successor will be soon appointed. Out of all the men able to fill the post, only three are actually eligible at present. They are Rabl, in Leipsic, Grosser, in Prague, and Tandler, in Vienna. It is the custom in this country, whenever a new medical teaching appointment has to be made, for the senate of the university to call the attention of the ministry of education to at least three men, named in order of preference. Very seldom is one man recommended as the first and only candidate. This has been the case just now, when Professor Tandler has been presented by the senate. He has been for the last four years *locum tenens* for Zuckerkandl, who was obliged by illness to abstain from all but very slight work. Tandler has gained the esteem and the attention of students and scientists alike during the time he has been active in the anatomic department. It is not impossible, however, that some outsider will be appointed, for it has happened sometimes that influences more powerful than scientific requirements have been able to outweigh the recommendation by the senate.

Scarcity of Hospital Beds in Vienna

Owing to the lack of private charitable institutes and the well-known parsimony of the government, it is always difficult in this city to obtain hospital accommodation even in urgent cases. It is true that when the new clinics and the jubilee hospital are completed, 3,300 beds will be added to the present number, but altogether there will be, even then, only some 8,000 hospital beds (not including asylums) available for a population of 2,000,000. A very instructive paper by an official, describing these impossible conditions and demanding immediate help, has appeared in a medical and a lay paper. The author, who is in a position to know, states that out of every fifty demands for a bed only fourteen can be complied with. In many wards two or three children have to sleep in one bed, or mattresses and blankets are placed on the ground to enable more patients to be accommodated; convalescents have to be dismissed at the very earliest opportunity. Furthermore, it is the custom to clean the wards thoroughly in turn every summer when the number of applications is smaller, owing to the absence of diseases of the respiratory organs, the better weather conditions and similar reasons. Therefore, between June and September many wards are partially or totally out of use, and between 20 and 25 per cent. of the beds are thus out of the reckoning. The very unusual weather conditions of this summer in Europe, with the high percentage of total rainfall and moisture, the low average temperature and the strong winds have caused an excessive demand for hospital beds, doubly felt because of these facts. These conditions, abominable as they are, have been apathetically regarded as inevitable, until it became known that a few days ago a mother, applying for admission with a baby in her arms, could not find a bed in the hospital and was found dead next morning in the street with her dying baby still in her arms. Public comment soon took hold of the gruesome incident, and the fact that even tuberculous patients have to wait for weeks and months for admission was severely criticized. In the presence of such scarcity of beds, while the patients die in the streets, state and municipality quarrel as to who has to find the necessary funds.

Miscellany

THE WORK OF NEW YORK'S TUBERCULOSIS CLINICS

A Critical Study of Its Own Work Made for the Association of Tuberculosis Clinics

Prior to 1908, New York City had a number of tuberculosis clinics, either separate or connected with other dispensaries and clinics supported by the city, each of which had a different equipment and a different plan of handling and treating patients. In January of that year the Association of Tuberculosis Clinics was formed to coordinate the work of the nine tuberculosis clinics then existing, to increase the number of clinics, and to limit the overlapping and duplication in work which had previously been common, and also to establish uniformity as nearly as possible in methods of examination, records, clinic rules, etc. The result of the study of this association of the New York clinics is embodied in a 90-page pamphlet* by Miss F. Elizabeth Crowell, the executive secretary, setting forth in some detail the work of the clinics, and making recommendations for improvement and uniformity in the service. The information gathered was included under eight heads: General information, hygiene of clinic, clinic facilities, general policy of administration, routine method of treatment, nurses, children's clinic and day camps.

The oldest clinic was established in 1894, a second in 1895 and the third in 1902, and one or more yearly since that date. Some treat certain nationalities almost exclusively. Five clinics are connected with city institutions and these and two private clinics are free. In some others a nominal charge of 10 cents is made for registration, medicine being furnished free. Three are independently organized. All the others are operated as departments of existing hospitals or dispensaries. Four clinics have day camps connected with them, and three have regularly organized children's classes. Four clinics have women's auxiliaries which contribute toward the relief of destitute clinic patients, and in various ways supplement the work of the clinics in the homes.

In respect to hygiene, the clinics were found to differ widely in their routine methods, in the matter of the care of sputum, cuspidors, disinfecting solutions, furnishing of gauze or paper handkerchiefs and their disposition; methods of providing drinking water, by sanitary fountains, sanitary cups, etc., periodical fumigation of the clinic rooms, etc. In some clinics neither gowns nor aprons are worn by the physicians, while in others washable gowns are used. The same applies to the nurses. At only two clinics was any attempt made to protect the physician while he was examining the patient. The clinics differed most widely in the amount of room space used for the tuberculous patients. The Department of Health clinic, the largest, having one month 1,264 patients under treatment, has ten rooms, twelve physicians, exclusive of the chief, and seven nurses. The clinic is open six days a week, with two sessions a day and one evening a week. The average amount of time available for each patient was seventeen minutes. For its 626 patients Bellevue has two rooms, nine physicians and four nurses. The amount of time of the physicians available for each patient is about twelve minutes. Some of the clinics have enough space, but many are overcrowded.

As to general administration, at five clinics the initial examination is made in the general medical clinic of the dispensary; at others it is made in the tuberculosis clinics. At only four clinics are records kept of patients on discharge, and it is in respect to the keeping of the records that there is the greatest lack of uniformity, although this has been repeatedly urged. A uniform system of records has been employed in Brooklyn, greatly facilitating the transfer of cases. Some use cards, others sheets or books.

At all clinics the temperature, pulse and weight of patients are taken at each visit, and some record information from visiting nurses. All but three use the tuberculin test. The average time patients are kept under observation pending diagnosis is one month. A negative sputum diagnosis is disregarded. There is no uniformity as to reexaminations of sputum. The usual time of making an examination is about five minutes. At some clinics throats are examined and treated regularly.

The number of nurses varies from one to seven, and their time is divided between actual clinic work, clerical work and visiting work. The educational value of the visits of the nurses on patients and family is considerable, and the nurses should be trained in social work. Children attend the general clinics at dispensaries which do not have separate clinics for children. Day camps for use of patients needing sanatorium treatment, but unable to leave the city, in some instances are provided on ferry boats in the river, or on roofs, etc., and connected with each is a day school under the charge of a graduate nurse and a teacher assigned by the Department of Education. It has been suggested that each clinic arrange for a visiting physician to bed cases on the recommendation of the visiting nurses.

The statements of the physicians and nurses connected with the various clinics and the testimony of those investigating conditions are that the most pressing needs are more space, more physicians, more nurses and a more satisfactory organization of relief work for destitute clinic patients. Vast improvement, however, has been effected in recent years. Formerly tuberculosis patients were rushed through overcrowded general medical clinics, no special consideration being given them. Only four clinics kept a record of the condition of patients on discharge, but as an indication of the benefits resulting from clinic treatment, the following figures are of interest: Bellevue reports for 1909 that of 1,369 patients discharged, 3 per cent. were apparently cured, 4 per cent. arrested, 24 per cent. improved; 66 per cent. were progressive and 3 per cent. died. Gouverneur reports that of 301 patients discharged, 1.6 per cent. were apparently cured, 4.3 per cent. arrested, 33.8 per cent. improved; 41.5 per cent. unimproved, 15.6 were progressive and 2.6 per cent. died.

As a result of the whole investigation, the Board of Directors formulated, among others, the following recommendations concerning the tuberculosis cases and their handling: That patients while waiting admission to the clinic rooms should be separated from the other dispensary patients; that in all rooms large signs in several languages be displayed giving detailed information as to caring for the sputum; that sputum cups be furnished to take home; that paper or gauze handkerchiefs be furnished for use at the clinic, with receptacles for their disposal; that no cuspidors be used; that sanitary drinking fountains or paper drinking cups be furnished; that furniture as well as walls be washed daily; that gowns with sleeves be worn by physicians and nurses; that capes of washable material be furnished patients while disrobed awaiting examination. It is also recommended that each clinic shall have one room for interviewing patients, one for examining women and one for men. There are other recommendations concerning the use of the rooms by the social workers for private conferences with patients, for the care of the physicians' and nurses' coats and gowns, and details as to the equipment of each dispensary, and that the number of physicians in attendance shall be sufficient to allow at least fifteen minutes for examination of new cases exclusive of history taking, and at least six minutes for every old case, with a nurse for every 100 patients on the clinic register. The general policy of administration should seek to arrange for a physician to visit and treat in their homes patients too ill to attend, for the establishment of separate children's clinics wherever possible, and that patients be classified and treated in groups; also that a uniform procedure be adopted regarding time of transfer from one clinic to another, frequency of reexamination of sputum and of patients; as to the use of the nurses' reports of home conditions as a basis for advising patients, as to the transfer of cases living out of the district, as to record-keeping and record-filing in clinics and day camps, record of condition on discharge, and that the classification of the National Association be employed for recording the stage of the disease and condition on discharge. As to nurses the recommendations are that all supervising nurses shall be affiliated with some local relief organization, and that nurses in the clinics shall have training in social work, and that the home of every patient should be visited at least once a month.

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* Copies of this report may be obtained by writing to the Association of Tuberculosis Clinics, 105 E. 22nd St., New York City.

This careful and critical study of the clinics, their material conditions, shortcomings and needs is a valuable one, and the recommendations if carried out would vastly improve the efficiency of the antituberculosis work in New York. It will also serve as a practical guide in tuberculosis work in other communities, revealing the shortcomings of lack of thorough system and emphasizing the importance of cooperation and uniformity of methods, records, etc. System, thoroughness and uniformity of method are especially essential to any considerable degree of efficiency in this work.

Post-Mortem Findings in a Case of Pellagra.—Aldred S. Warthin (*Physician and Surgeon*, xxxii, No. 1) reports the post-mortem findings in a case of pellagra. The patient was a German woman who had lived in Wisconsin in early life and later in the South. She had always eaten corn-meal mush until the appearance of the symptoms of pellagra, when she developed an aversion to it. Two years before death she developed gastro-intestinal diarrhea and skin lesions over the abdomen, face, back of the hands and other parts, in general resembling erythema, with little vesicles developing into pustules. The palms and soles were the only portions free from lesions. The general symptoms were increasing weakness, anemia, a dragging walk, somewhat spastic in character, and an increasing mental confusion, which was recognized and commented on by the patient. She was emaciated and the blood showed a moderate secondary anemia. The reflexes were all exaggerated. Just before death she had a few convulsive attacks and died rather suddenly. The autopsy material received from this case consisted of the dorsal portion of the spinal cord, portions of the internal organs, and skin taken from pieces of discoloration. Microscopic examination of the skin showed practically the changes observed and reported by Lombroso. There was a very marked atrophy of the dermis and all its structures. One of the most striking features was the scarcity of cells. The horny layer of the epidermis was thickened, while the stratum granulosum and the rete showed extreme atrophy. In some places the heavy layer seemed to lie directly on the rete. At intervals there were small minute fissures or ulcers extending into the dermis. The blood-vessels were sclerotic, and the nerve trunks appeared to be atrophied. Examination of the spinal cord was disappointing in that it showed but little change. The marked changes reported by Lombroso were not found in this case. There was no marked sclerosis, and very slight degeneration. The meninges, however, were thickened and sclerotic, and some of the vessels of the cord showed sclerosis. The kidney showed a very striking atrophy of the renal epithelium, with thickening of the capsules of some of the glomeruli. There was chronic passive congestion and some sclerosis. The liver showed chronic passive congestion, atrophy and sclerosis of some of the vessels. The spleen showed the most striking changes. The follicles showed marked degeneration and necrosis of the germ cells followed by a hyaline change, many of the glomeruli being replaced by hyaline lump masses. The vessels also showed marked sclerosis. The degeneration of the follicles was very similar to that seen in diphtheria, burns of the skin, pulmonary gangrene, and of ulcerating carcinoma of the intestine, and must be interpreted as the result of some intoxication. Lombroso speaks of fibrinous exudates in the spleen, but staining for fibrin did not reveal the presence of any in this case. In general, the examination of the material showed a picture of general chronic intoxication, with special lesions in the skin and spleen.

The Transmission of Trypanosoma Lewisi by the Rat-Flea.—The experiments of E. A. Minchin and J. D. Thomson (*Proc. Roy. Soc.*, London, Feb. 3, 1910; *Nature*, Feb. 10, 1910, p. 447) would indicate that trypanosomiasis may be transmitted by the flea. In these experiments the *Trypanosoma lewisi* and the rat-flea were used and the methods of transmission were closely studied. The fact of transmission was confirmed. When preliminary experiments showed that infection, not "direct" had taken place, further experiments were arranged to determine if fleas, once infective, retain infection so as to be capable of infecting a series of healthy clean rats without themselves being again exposed to infection, and at the same time to determine by direct observation and within narrow limits (1) the length of the incubation period in the flea, and (2) the length of the multiplication period in the rat. The following conclusions are drawn from the results of the experiments; The rat-flea transmits *Trypanosoma lewisi* from infected to non-infected rats. Transmission takes place by the "cyclical" method. Transmission by the "direct" method did not take place. The incubation period in the flea has a minimum length of about six days, but may be longer. The length of the multiplication period in the rat is about twelve days. In the developmental cycle the establishment of the trypanosome in the flea begins with the multiplication of Crithidia-like forms in the rectum. No flagellates have been found by the authors in any fleas which had not fed on infected rats.

Decrease in the Death-Rate from Tuberculosis.—At the meeting of the Conference of State Charities Aid Associations at Albany in March, at which the watchword was "No uncared-for tuberculosis in 1915," Dr. Simon Flexner of the Rockefeller Institute had this to say (*Journal of the Outdoor Life*, April, 1910): "Since it has been possible in a period of a little more than ten years to reduce the death rate from tuberculosis in New York City by more than 40 per cent., and this in spite of its congested tenements, its foreign and ever-shifting population, and its lack of suburban outlets, it requires no gift of prophesy to foretell that once the state of New York is aroused to its responsibility and opportunity in this field of human endeavor, its record will surpass that of New York City and become the equal of the best to be found in the world. Merely to reduce the death rate in the state, outside of New York City, by 50 per cent. for which the method lies clearly exposed, would mean the saving of 3,000 valuable lives annually, and the sparing of an immeasurable amount of suffering, a vast deal of poverty and much treasure. And I hope and expect to see this result surpassed in the next decade. . . . It is significant that the falling in the death rate from tuberculosis is found to be going on precisely in those countries and exactly in proportion to the extent in which hospital and sanatorium care of the tuberculous has been provided, while in countries in which this provision has been neglected, the death rate has remained high."

Marriages

Edwin W. Enz, M.D., to Miss Anita Perry, both of Cincinnati. Ohio. June 29.

James Clinton Russell, M.D., to Mrs. Ella Thomas, both of Oakford. Ill., July 4.

Alvaro C. Durkee, M.D., to Miss Lydia Helen Maloney, both of Pontiac, Ill., July 20.

Paul H. Rupp, M.D., to Miss Grace C. Rooney, both of Milwaukee, Wis., July 7.

Harris P. Dawson, M.D., Mobile, Ala., to Miss Jennie J. Barrow, at New Orleans, June 2.

Wade MacMillan, M.D., Cincinnati, to Miss Marion Thayer Ashton, of Oxford, Ohio, July 15.

Randolph W. Hill, M.D., Los Angeles, Cal., to Miss Edith Thatcher, of San Francisco, June 28.

Carl S. Montgomery, M.D., Stockland, Ill., to Miss Leona B. Garrett, of Momence, Ill., June 30.

David Alderman Herron, M.D., Platte, S. Dak., to Miss Jessie Edna Lee, of Pesotum, Ill., July 12.

Charles Loftus Grant Anderson, M.D., Washington, D. C., to Miss Ruby Scruggs, of Atlanta, Ga., July 7.

James McBryde Knox, M.D., to Miss Charlotte Rebecca Poyneer, both of Cedar Rapids, Iowa, June 29.

Daniel Aloysius McAteer, M.D., Brooklyn, N. Y., to Miss Alice Theresa Bee, of Bridgeport, Conn., June 22.

Alton LeRoy Flanders, M.D., Boston, to Miss Katherine McKane, of Asheville, N. C., at Rockland, Maine, July 14.

Deaths

Alexander Johnson Stone, M.D. Berkshire Medical College, Pittsfield, Mass., 1867; second vice-president of the American Medical Association in 1902; former president of the Minnesota State Medical Association; a member and former president of the Association of Military Surgeons of the United States; ex-president of the American Association of Medical Editors; Surgeon-General of Minnesota, which position he held for ten years; health commissioner of St. Paul from 1895 to 1899; professor and chief of the department of gynecology in the University of Minnesota College of Medicine and Surgery; died at his home in St. Paul, July 16, from bronchitis and hepatitis, aged 64.

Paul Allen Adams, M.D. College of Physicians and Surgeons, New York City, 1903; a member of the American Medical Association; who was appointed first lieutenant, Medical Reserve Corps, U. S. Army, Sept. 25, 1909; died at Schofield Barracks, Honolulu, H. I., July 3, from acute appendicitis, aged 34.

Henry Clay Early, M.D. Barnes Medical College, St. Louis, Mo., 1898; a member of the Illinois State Medical Society; died at his office in Granite City, Ill., July 13, from the effects of a gunshot wound of the heart, fired it is believed, with suicidal intent, aged 44.

William Orlando Shepard, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; a member of the Medical Association of the State of Alabama; died at his home in Tohepeka, near Dadeville, Ala., June 27, from ulceration of the bowel, aged 37.

Edwin Hawes, M.D. Louisville (Ky.) Medical College, 1873; for many years connected with charitable work in Louisville, being agent for the Western District Charity Organization since 1885; died at his home in that city, July 12, from cystitis, aged 59.

John Nelson Byers, M.D. Medical Department of Victoria College, Toronto, Ont., 1869; a member of the Nebraska State Medical Association; of Fontalle, Neb.; died at the Clarkson Hospital in Omaha, July 6, from carcinoma of the stomach, aged 67.

Edward G. W. Crist, M.D. Medico-Chirurgical College of Philadelphia, 1907; a member of the American Medical Association; of Lisburn, Pa.; died at the home of his father-in-law in Pleasantville, N. J., July 2, from tuberculosis, aged 33.

Martin Jellette Taylor, M.D. University of Michigan, Department of Medicine and Surgery, 1881; a member of the Minnesota State Medical Association; died at his home in Janesville, Minn., July 5, from cerebral hemorrhage, aged 56.

Thomas Henry Howard, M.D. Jefferson Medical College, Philadelphia, 1861; a member of the Medical Society of Virginia; a surgeon in the Confederate Army during the Civil War; died at Floyd, Va., July 16, from uremia, aged 75.

John L. Higbee, M.D. Homeopathic Medical College of Missouri, St. Louis, 1870; said to have been the oldest physician in southern Indiana; died at his home in Sullivan, Ind., July 9, from senile debility, aged 93.

Claudius William Powell, M.D. University of Alabama, Medical Department, Mobile, 1888; a member of the Medical Association of the State of Alabama; died at his home near Hope Hull, Ala., July 12.

George Seabury DeWitt, M.D. Harvard Medical School, Boston, 1846; assistant surgeon in the Union Army during the Civil War; died at his home near Elliott, Iowa, July 6, from senile debility, aged 92.

Luther B. Terrill, M.D. Medical College of Ohio, Cincinnati, 1880; a member of the American Medical Association; surgeon to the Big Four Railway; died at Indianapolis, July 7, from pneumonia, aged 54.

Emery C. Thorn, M.D. Hospital College of Medicine, Louisville, Ky., 1901; a member of the American Medical Association; died at his home in Hagerman, N. M., July 11, from tuberculosis, aged 33.

George Frederick Kaufhold, M.D. Minneapolis College of Physicians and Surgeons, 1909; died at Duluth, Minn., as the result of injuries received in an automobile accident, July 17, aged 25.

Robert S. Powell, M.D. University of Virginia, Department of Medicine and Surgery, 1857; a member of the Medical Society of Virginia; died at his home in Woodview, Va., July 11, aged 75.

Rudolph Woldemar Baum, M.D. University of Freiberg, Germany, 1883; a member of the Medical Society of the State of California; died at San Francisco, June 10, aged 53.

Michael Frank McCabe, M.D. Rush Medical College, Chicago, 1885; city physician and health officer of Ironwood, Mich., died at his home in that place, June 8, aged 50.

Nathan Henry Richards, M.D. University Medical College of Kansas City, Mo., 1901; of Kansas City, Kan.; died at Alamosa, Colo., June 6, from tuberculosis, aged 56.

Charles Edward Moore, M.D. Rush Medical College, Chicago, 1895; formerly of Rolling Prairie, Ind.; died at Kokomo, Ind., June 27, from hematemesis, aged 39.

Henry Ernest Packer, M.D. New York Homeopathic Medical College and Hospital, New York City, 1881; of Greenfield, Mass.; died in Boston, July 15, aged 62.

Oscar F. Edwards, M.D. Eclectic Medical Institute, Cincinnati, 1864; died at his home in New Lebanon, Ohio, July 8, from dropsy and heart disease, aged 74.

Ernest Clayton Blake, M.D. Dartmouth Medical School, Hanover, N. H., 1893; died suddenly at his home in Boothbay Harbor, Maine, July 8, aged 41.

Eli Forest Denson, M.D. Vanderbilt University, Medical Department, Nashville, Tenn., 1879; died at his home in Pelham, Ala., July 9, aged 55.

William Dunham Cole, M.D. Eclectic Medical Institute, Cincinnati, 1879; died at his home in Ansonia, Ohio, July 8, from paralysis, aged 63.

Charles H. Dyer, M.D. Eclectic Medical Institute, Cincinnati, 1896; died at Winchester, Ill., July 13, from heart disease, aged 37.

Frank Lyon Wood, M.D. Harvard Medical School, Boston, 1900; died at his home in Long Beach, Cal., June 29, aged 35.

Pharmacology

ENTERONOL—CHOLEROL

A Nostrum That Has Been Going to Physicians Under One Name and That Now Goes to the Public Under Another

Our readers no doubt remember the therapeutic humbug, yclept Enteronol, emanating from Oswego, N. Y.; it has been pretty thoroughly exposed in two articles in The Journal.[1] It was first shown to be advertised under a fake formula with the claim that its marvellous virtues as "the greatest enteric antiseptic and germicide ever known to medical science" were due to a mysterious Himalayan plant. Analysis showed its chief constituent to be common alum while investigation indicated that the mysterious plant was a figment of the imagination. Later the enterprising manufacturers added opium.

In the second article The Journal showed that advertising contracts for this nostrum were being offered to medical journals on condition that payment should be either in the "preferred stock" of the Enteronol Company or in Enteronol itself! A number of medical journals, apparently, were willing to accept the advertisements on this basis.

Now comes the third and final stage—its exploitation to the laity. Not as Enteronol, however, for that would doubtless interfere with the sale of the stuff to physicians, but under the more expressive name "Cholerol," it goes to the public. As Enteronol the nostrum is still being advertised to physicians, both through medical journals and by means of circular letters, and medical men are being importuned to buy stock in the company. Naturally the testimonials which the concern has on hand regarding Enteronol are too valuable an asset to waste, so they are made to do duty—after being slightly "worked over" to suit the lay audience—for the "great diarrhea specific," Cholerol.

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[1] March 21, 1908, and Nov. 20, 1909; reprinted in The Propaganda for Reform.

Cholerol sells at 25 cents a box and the statement is made on the package:

CURES DIARRHEA, DYSENTERY, CHOLERA, ETC.

This brings the nostrum clearly in conflict with the federal food and drugs act and we trust we may find the enterprising exploiters of alum, opium and physicians given due prominence in the "notices of judgment" which an overworked government department has to issue for the warning of the public against frauds in drugs and foods.

The above are two names for a mixture of alum and opium exploited respectively to the medical profession and to the laity. As "Enteronol" it is "advertised to the profession only" as the "greatest enteric antiseptic and germicide ever known to medical science;" as "*Cholerol* the great diarrhea specific" it goes to the public.

If the stuff had not been exposed for the fraud that it is, there might be some slight excuse for careless medical journals carrying advertisements of Enteronol. But when *it is borne* in mind that on two separate occasions The Journal has shown the preparation itself to be a therapeutic humbug and its method of exploitation to be an impudent *insult on the* medical profession, when it is remembered, too, that these exposés have been reprinted and widely distributed in the "Propaganda for *Reform*" booklet—when all this is called to mind there is absolutely no excuse for any medical journal carrying an advertisement of the nostrum. Yet it is still to be found exploited in the pages of the following *publications*:

Proctologist.
Medical Herald. }
Medical Fortnightly. } Owned by the same individual.
Medical Summary.
Milwaukee Medical Journal.
Atlanta Journal-Record of Medicine.
Toledo Medical and Surgical Reporter.

Whether these journals are being paid for their space in "preferred stock," in Enteronol tablets or in real money, makes little difference. The stuff has been shown to be a fraud and those medical journals which are helping to perpetuate the fraud are recreant to any trust their readers may have in them and are a disgrace to medical journalism.

ANTIDIABETICUM

A correspondent asks for information regarding "Bauer's Antidiabeticum," a preparation exploited by the Sanin-Gesellschaft of Koetzschenbroda-Dresden. He states that the "literature" sent out concerning this preparation is extremely quackish and he wonders if the product is not in the same class.

Advertising matter on Bauer's Antidiabeticum is a good illustration of the "literature" of "patent medicines" in general. Making allowance for somewhat imperfect English, we gather from it that previous attempts to cure diabetes have failed but that the author has made a great discovery by which, the cause of the disease being known, he is able to present a scientific treatment. The cause of diabetes in his view is simply an "indigestion of the severest kind, a weakening *and a refusal to act* on the part of the nerves regulating the so-called 'flexus sympathicus' which causes *auto-poisons* to pass into the blood, thus causing gradual dissociati*on of the* blood and, *therefore*, deficient functions of all the tissues *of* the body." His *explanation* of previous failures is as follows: "*All the different cures for* diabetes failed until now, only because of their *inability to* fight and to *render* innocuous *the diabetic* acids, *poisons and parasites*; especially aceton, acetic and oxybutyric *acid.*" *The true* cure is, of course, Bauer's Antidiabeticum. After describing the symptoms, the author proceeds as *follows*: "Bauer's Antidiabeticum in conjunction with *the new* diabetes *therapy* does gradually away with all *these* symptoms. *Open* wounds are rapidly *cured* through a strict diet along with the use of Bauer's Antidiabeticum; slowly, however, when the albumins of the body are already decomposing into sugar, when the blood is progressing favourably the tissues of all sorts which were destroyed by the poisons regenerate gradually."

There is no limit to his enthusiasm regarding his great discovery. "I wish hereby to call again particular attention to the absolutely certain cure of wounds after using 'Bauer's Antidiabeticum,' especially after amputation, as I have proved on various cases." *He cautions us*, however, that "every case is curable *in which* the diabetic *poisons* have *not gone beyond a certain limit.*"

The "literature," so far as we can learn, gives no *information* as to the composition *of* this wonderful remedy. *There appears to be some difference in the composition* of the product *as made* in the United States and Germany. The following is the method of preparing, according to the U. S. patent specifications:

> *5000 gm. Eugenia jambolana and 5000* gm. dried kola nuts *are* mixed and ground as fine as possible. Then 125 gm. *lime and 2500* gm. water are added and the mixture triturated at a gentle heat and then allowed to stand for 24 hours. Carbon dioxid is run in till the alkalinity of the mixture *is about 0.2 per* cent. Then water is added at 50° C. and the mixture filtered through animal charcoal. The resulting liquid has a specific gravity of 1.02.

According to Hahn-Holfert-Arends (*Spezialitäten und* Geheimmittel, edition 6, 1906, p. 24), *however*, the composition is said to be:

Ext. Condurango	15 gm.
Jambolana fruit	15 gm.
Jambolana bark	15 gm.
Ext. Arthante	10 gm.
Flaxseed	60 gm.
Bay leaves	2 gm.
Ext. Gentian	15 gm.
Rosemary flower	5 gm.
Ext. Calami	15 gm.
Star anise	3 gm.
Sodium chlorid	30 gm.
Ext. Cinchona, alcoholic	15 gm.
Salicylic acid	3 gm.

It is needless to say that no physician who understands the pathology of *diabetes would* expect to cure the disease by means of such an absurd combination.

Correspondence

Pharmaceutical Manufacturers and the Great American Fraud

To the Editor: An editorial entitled "Pharmaceutical Manufacturers and the Great American Fraud" in your issue of July 2, calls attention to one hitherto little appreciated link in the great American fraud chain. It has previously been hinted at that the "ethical" pharmaceutical manufacturing houses *are in* the business of supplying all comers, whether the goods be fraudulently exploited or not. To quote from your editorial: "Legally they may be within their rights, but ethically and morally their course is iniquitous. No amount of argumentative sophistry will justify, in the eyes of the medical profession, the attitude taken by those manufacturing pharmacists who are willing to sell their products to any who will pay for them, no matter to what use the drugs are put." And again: "How much longer manufacturers of pharmaceuticals will maintain this Janus-faced attitude depends largely on the medical profession. It is safe to assert that no firm would for long continue this wretched business in the face of insistent disapproval from physicians."

Responsibility for the continuance of this lamentable state of affairs must rest somewhere—perhaps not entirely on the manufacturers and exploiters. But why, I would ask, place the burden of disapproval of the practice on the shoulders of the physicians? Why not seek a scapegoat nearer home? The Journal, through the activity of its Council on Pharmacy and Chemistry, is trumpeting loudly its emancipation from the thraldom of the nostrum maker. And it is well that it is so. But is there "argumentative sophistry" shrewd enough to explain The Journal's attitude of disapproval of a misbranded article advertised to the medical profession, while sanctioning a far greater offense—the active cooperation of the "ethical" manufacturer with the vilest of advertising schemers? The manufacturer who makes it possible for these criminals to rob and destroy, who furthers "the business by which the ignorant or gullible sick are humbugged and defrauded," who prepares for them such ammunition as "consumption-cure" pills, "force of life" and "make-man tablets"—ill deserves our respect and support.

If The Journal of the American Medical Association represents the united medical profession, why should not it (The Journal) don the cloak of disapproval for the united profession? If the flourishing Journal, with its circulation of over 53,000, is unwilling to live up to its professed convictions and say to such a manufacturer, "You have violated the confidence the medical profession has placed in you and are therefore *persona non grata* with this publication and cannot re-enter its pages until you have purged yourself of this practice," what influence can the disapproval of a handful—a hundred—or several times that number of physicians bring to bear? The "insistent disapproval of physicians" will give these manufacturers much food for the waste basket; the same disapproval expressed by The Journal in the manner suggested, will give them wholesome food for reflection.

Let it not be said that The Journal of the American Medical Association is Janus-faced; that if no amount of argumentative sophistry justifies the manufacturers' practice in the eyes of the medical profession, this practice shall remain uncondemned by that profession's official publication. Let it not be said that The Journal has failed to serve those in whose interest it professes to labor, and—splendid publication that it is—that its ethics are ethereal and its preachings mere oratorical flights.

Arthur J. Patek, M.D., Milwaukee, Wis.

Comment.—The arguments advanced by our correspondent—the late editor of the *Wisconsin Medical Journal*—are plausible but fallacious. The reason The Journal would place "the burden of disapproval of the practice," as he put it, on the "shoulders of physicians" is because that is where the burden belongs. The medical profession, either directly or indirectly, has been responsible in no small degree for some of the evils in the pharmaceutical manufacturing business, and the majority of physicians are beginning to realize this fact. It is for this reason the critical work of The Journal has been carried on in the spirit in which it has. While the nostrum exploiters, and those medical journals that stand for the nostrum interests, would have the profession believe that the propaganda for reform in proprietary medicines has been exclusively of a *destructive* nature, the better class of pharmaceutical manufacturers, and the higher class of medical journals, know that the chief—and by far the most important—work of the Association has been of a *constructive* nature.

It is probable that, with but possibly one or two honorable exceptions, every large pharmaceutical house in the United States has been making a practice of furnishing medicaments for quacks and fake medicine concerns. On the other hand many of these manufacturers have done a vast amount of original research work that has enriched the physician's armamentarium—and thereby done the public good service. True, the work was done for selfish purposes; but the whole history of human progress shows that practically everything we now pronounce necessary to our comfort and material happiness has been brought into being for selfish reasons—that of bringing the inventor or discoverer riches or honor.

To particularize, it may be stated without fear of contradiction that if the individual physician makes it clear to the various pharmaceutical houses, either through the detail men that call on him or by letter, that he resents the double-faced attitude shown up by The Journal, one of two things will happen. If furthering the great American fraud is more profitable than serving the profession, then such houses will frankly go into that business; if on the other hand there is more profit—as there is certainly more honor—in catering to the medical profession, then the manufacture of preparations for those who use them to deliberately swindle the public, will cease. That The Journal would hasten the necessary reform by excluding from its pages advertisements of products that are of value to the medical profession, no one who gives the matter more than the most shallow consideration, will for a moment believe. The Journal believes that it can best serve the interest of physicians by causing reforms from within rather than by ostracizing pharmaceutical houses which—with all their shortcomings—have done, and are doing, valuable work for the medical profession.

It is not, as our correspondent seems to intimate, a matter of losing advertising patronage that causes The Journal to retain the advertisements of those houses which it has shown to be guilty of furnishing drugs to those who would swindle and defraud the public. Those familiar with The Journal's attitude on the question of acceptable advertising, know how absurd it is to accuse it—even inferentially—of shaping its policy according to its advertising pages.

When The Journal believes that the best interests of the medical profession and the public can be served by ceasing to carry advertisements of reputable products, put out by firms who manufacture "patent medicines," then such advertisements will be dropped. Meanwhile we shall continue to let our readers know of all cases of which we learn, similar to those referred to, i. e., where pharmaceutical houses are in collusion with those who are deliberately swindling the public.

The Standing of Queen's Medical College, Kingston, Ont.

To the Editor: In The Journal, July 2, there is a note on page 38, under Canadian news, on "The Carnegie Foundation Report and Canadian Medical Colleges," which contains such a serious misstatement that I am forced to protest against it and to ask you to give this equal publicity. The item reads: "According to this report four of the eight medical colleges would meet the needs of medical education in Canada. These are Toronto, McGill, Manitoba and Laval at Quebec." Now the Carnegie report (page 326) reads thus: "At this moment the needs of the Dominion could be met by the four better English schools and the Laval department at Quebec."

The Kingston school is one of the "four better English schools." It ranks next to McGill in point of size and efficiency, and it is placed in "Class A" by the Council on Medical Education of the American Medical Association (The Journal, June 18, p. 2062).

I presume that your correspondent did not read the report for himself, for I am unwilling to think that he would deliberately try to injure Queen's Medical School in this way.

As graduates of Queen's are to be found all over the United States, and as many of them are members of the Association and readers of The Journal, I beg to add that the position and the future of Queen's Medical School are perfectly secure. Its record, organization, progress, equipment and facilities compare well with those of any other Canadian school and the faculty invites the most rigid inspection and criticism.

J. C. Connell,
Dean, Queen's Medical Faculty, Kingston, Ont.

[Comment: The passage alluded to clearly contains a misquotation of the Carnegie Foundation's report and we are glad to publish the above letter to correct it.—Ed.]

Types of Bronchoscopic Tubes

To the Editor: The ingenious and skillful operation reported by Dr. W. E. Casselberry, "The Cutting in Two of a Large Steel Pin while Fixed in the Left Bronchus" (The Journal, July 2, p. 9), offers opportunity for comment on the relative merits of the Killian and Ingals or Jackson types of bronchoscopic tubes. The beveled "tubular spatula" of Killian is peculiarly adapted to exploration of the bronchi through the lower route and especially in searching for a pin.

In a recent operation in a case similar to Dr. Casselberry's—a steel glass-headed pin 1⅜ inches long in the left bronchus of an infant of 18 months—I was able to enter and bring into the field of vision the whole of the main bronchus without risk of touching the pin. The long beveled end turned to the left enables the operator to pass and straighten out the angle and examine that area where the point is apt to be embedded, that is, the median bronchial wall. The beveled end further aids in extraction, as it is necessary only to press the forceps grasping the pin near the point over against the projecting lip, thus avoiding the risk incurred in attempting to draw the pin into the lumen of the tube. The Killian tubes are not in general use in this country and it seems to me that the long beveled end is a very considerable advantage in the type of operation performed by Dr. Casselberry.

Thomas Hubbard, Toledo, Ohio.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TSUCHIYA'S METHOD OF ESTIMATING ALBUMIN IN URINE

To the Editor:—In a recent editorial (The Journal, July 16, p. 221) you referred to Tsuchiya's method of estimating the amount of albumin in the urine. Will you kindly tell me where I can find the details of the method? Chester Conyers, Chicago.

Answer.—Tsuchiya published his method in the *Zentralblatt f. inn. Med.*, June 13, 1908, p. 605, and a brief abstract is given in The Journal, July 25, 1908, p. 333. The formula is given by E. H. Goodman and S. Stern in The Journal, Dec. 12, 1908, p. 2056, as follows.

Phosphotungstic acid	1.5	gm.
Hydrochloric acid (conc.)	5	c.c.
Alcohol, 95 per cent. q. s. ad	100	c.c.

Tsuchiya precipitates the albumin in a specially devised tube. Goodman and Stern titrate 5 c.c. of the reagent with urine until a whitish cloud appears after shaking.

UPHOLDING THE VITAL STATISTICS LAWS

To the Editor:—In The Journal (July 9, p. 133), under the above caption, you say: "It is an axiom in the legal profession that every lawyer is an officer of the state." What work does the lawyer perform in your state [United States] without remuneration? Why should the medical man be expected to serve the state gratuitously? What special privileges are granted the physician in your state [United States] as implied in your editorial?

J. G. Munroe, M.D., Winnipeg, Canada.

Answer.—By his oath when admitted to practice law in the United States the lawyer becomes an officer of the court. He has certain duties and obligations; there are certain things he agrees to do and to refrain from doing, for the privilege granted him of making a livelihood by his practice before the courts. He may be assigned by the judge of any court to defend an indigent prisoner without compensation, and he may not refuse on penalty of contempt or perhaps of disbarment. The right to practice medicine in any state is wholly a special privilege, properly within the regulation of the state. The state makes certain laws requiring the reporting of diseases, births and deaths. The physician is no more exempt than any other citizen from complying with all the laws, and these special laws referring to him he virtually contracts to comply with when he receives his license from the state granting him the special privilege of practicing medicine. In return, the state protects him in this special privilege by preventing others from practicing medicine, just as the government protects all citizens in their personal and property rights in return for rates or taxes paid. The labor of making these reports is trifling, the state furnishing blanks and often even postage; and besides, the physician may be fairly said to be paid for the service in the fees he collects from his patients, as the service, in the case of births, at least, is as valuable to the individual as to the people collectively. The physician is thus in a position toward the state analogous to that of the lawyer toward the court.

USE OF EPINEPHRIN IN ASTHMA

To the Editor:—Will you inform me where I can get treatises or information concerning J. Segel's paper on the oxygen-epinephrin inhalation treatment of asthma as abstracted in The Journal, July 9, 1910, page. 178. C. P. Dolan, Worthington, Minn.

Answer.—The article of J. Segel appeared in the *Zentralblatt f. inn. Med.*, June 4, 1910. The Journal abstract gives practically all the technic described in the original article. Segel uses a special attachment for volatilizing medicaments in conjunction with the inhalation of oxygen. This he does not describe in his article. For asthma he causes the patient to inhale 1 c.c. of a 1 per cent. epinephrin (adrenalin) solution. The article is extremely optimistic, considering that he reports only two cases. The method is a modification of the hypodermic use of epinephrin for asthma, recently introduced into Germany by N. v. Jagic (*Berl. klin. Wchnschr.*, March 29, 1909, page 583), but which has been long practiced in America. Jagic refers to Kaplan (*Med. News*, 1905). C. Matthews (*Brit. Med. Jour.*, Feb. 19, 1910) has also applied an inhalation method by spraying the solution into the nose. This method was recommended by T. F. Reilly in The Journal, June 4, 1904, page 1475.

REFERENCES ON HAY-FEVER

To the Editor:—Please give me references to some of the latest literature on hay-fever. W. C. Hollopeter, Philadelphia.

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Yonge, E. S.: The Treatment of Intractable Hay-Fever and Paroxysmal Coryza by Resection of the Nasal Nerve, *Lancet*, London, 1908, i, 1688.

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The Public Service

U. S. Public Health and Marine-Hospital Service

Changes for the week ended July 20, 1910:

Gardner, C. H., surgeon, granted 1 month's leave of absence from Aug. 1, 1910.

Wickes, H. W., P. A. surgeon, granted 1 month's leave of absence from July 15, 1910.

Foster, M. H., P. A. surgeon, on return of Surgeon H. D. Geddings to Naples, Italy, relieved from duty at that station and directed to proceed to Ellis Island, N. Y., and report to the Chief Medical Officer for duty.

Korn, W. A., P. A. surgeon, directed to proceed to Perth Amboy, N. J., on special temporary duty.

Manning, Herbert M., P. A. surgeon, granted 1 month's leave of absence from Aug. 2, 1910.

Friedman, H. M., acting asst.-surgeon, granted 28 days' leave of absence from Aug. 1, 1910.

Gibson, L. P., acting asst.-surgeon, granted 7 days' leave of absence from July 18, 1910.

Hamilton, H. J., acting asst.-surgeon, granted 4 days' leave of absence from July 19, 1910.

Houghton, M. W., acting asst.-surgeon, granted 7 days' leave of absence from July 23, 1910.

Onuf, B., acting asst.-surgeon, granted 2 days' extension of leave from July 6, 1910, on account of sickness.

Porter, J. Y., Jr., acting asst.-surgeon, granted 1 month's leave of absence from July 15, 1910, with pay, and from Aug. 15, 1910, to Nov. 30, 1910, without pay.

Scott, J. T., acting asst.-surgeon, granted 30 days' extension of leave from May 4, 1910, on account of sickness.

Staton, L. W., acting asst.-surgeon, granted 14 days' leave of absence from July 16, 1910.

Stuart, A. F., acting asst.-surgeon, leave of absence for 30 days from July 5, 1910, revoked.

Wetmore, W. O., acting asst.-surgeon, granted 9 days' extension of leave from June 29, 1910, on account of sickness.

Dr. Richard A. Kearny commissioned (recess) an Assistant Surgeon in the Public Health and Marine-Hospital Service.

Dr. Warren F. Draper commissioned (recess) an Assistant Surgeon in the Public Health and Marine-Hospital Service.

Dr. Julian M. Gillespie commissioned (recess) an Assistant Surgeon in the Public Health and Marine-Hospital Service.

Surgeon M. J. Rosenau's resignation accepted by the President to take effect June 30, 1910.

Medical Corps, U. S. Navy

Changes for the week ended July 16, 1910:

Berryhill, T. A., medical inspector, commissioned medical inspector from March 5, 1910.

Commissioned Surgeons: Seaman, W., surgeon, from Dec. 13, 1909; Richardson, R. R., surgeon, from Jan. 30, 1910; Dunn, H. A., surgeon, from Feb. 19, 1910; Stuart, A., surgeon, from March 5, 1910; Stepp, J., surgeon, from March 24, 1910.

Short, W. H., P. A. surgeon, commissioned passed assistant surgeon from May 4, 1910.

Phillips, E. W., asst.-surgeon, detached from the *Marietta* and ordered to continue treatment at the Naval Hospital, Portsmouth, N. H.

Irvine, W. L., asst.-surgeon, detached from the Naval Training Station, Newport, R. I., and ordered to the *Marietta*.

Strine, F. S., P. A. surgeon, detached from the Naval Hospital, Olongapo, P. I., and en route home.

Brown, H. S., P. A. surgeon, detached from the Naval Hospital, Canacao, P. I., and ordered to duty at the Naval Hospital, Olongapo, P. I.

Changes during the week ended July 23, 1910:

Reed, E. U., P. A. surgeon, detached from duty from Naval Hospital, Norfolk, Va., and ordered to duty on the U. S. S. *Philadelphia*.

Diehl, O., medical inspector, detached as fleet surgeon U. S. S. *Charleston*, Asiatic Fleet, and ordered home.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

EDITORIAL QUOTATIONS

"The Organization of Ill Health"

We quote the following from the (N. Y.) *Independent* as indicating the position of high grade, truly independent periodicals:

> There are a number of commercial interests in this country that do not want an independent national department of health. In recent years we have had many exposures of the "patent medicine" swindle. We have learned that most of the most popular "patent medicines," the so-called tonics, were nothing more than dilute alcohol with certain bitter drugs so as to make them taste mediciny. Physicians have seen alcohol habits formed as a consequence of freely imbibing these alcoholic preparations. Some of them were meant particularly for women's diseases, and the consequence has been a feminine nipping at alcoholic products that has worked serious harm to the women of the country. We have also found that the headache powders so commonly advertised were composed of drugs which, when taken as freely as was advised on the labels of many of these preparations, were seriously dangerous. We have had not a few, but many, deaths as a consequence of them. The soothing syrups for children mostly contained opium and were seriously injuring the growing child at an important period of its development, and adding to the number of nervous wrecks with tendencies to drug addictions in after life that we had in this country.
>
> For a time after these exposures the "patent medicine" swindlers were very quiet. In many cases their advertisements disappeared from their usual places. Now they are gaining courage again. The American people have proverbially a very short memory for such exposures. The "patent medicine" people dread very much the organization of a national department of health, because this will sadly interfere with their now happy prospect of reviving their business and fattening their purses at the cost of the health of our people. This is one element in the opposition organized for ill-health.
>
> There are others. There are a number of people in this country who would like to be freer to foist drugs, impure foods and questionable products of many kinds on our inhabitants, so as to make money, cost what it might in the health of those who consumed them. The consumer's purse they are interested in, but not his health. The organization of the national bureau of health, with its strict enforcement of the Food and Drugs Act, and its sure tendency further to protect by legislation the health of our people, is a dread specter to such exploiters of the public, and, of course, they want to lay it if possible.
>
> The League for Medical Freedom has a rallying cry. It is that the doctors are trying to create a medical monopoly—a doctor's trust. They insist that the Owen bill is due to the American Medical Association. As a matter of fact the bill emanates from the senator from Oklahoma himself, and the movement for a national department of health has been organized, not by the American Medical Association, but by the Committee of One Hundred of the American Association for the Advancement of Science. This organization, as is well known, consists not of physicians, but of the united scientists of the country, and only a very small proportion of physicians are in the membership. The Committee of One Hundred contains the names of many of the representative thinking citizens of this country. They come from all over the country. It is absolutely absurd to talk about such men organizing a medical trust. Practitioners of all the different cults in medicine are agreed that a national department of health would be a good thing, and cannot possibly interfere with present state laws as to medical practice. This organization of opposition should of itself be a strong argument for the Owen bill. We have the Organization of Ill Health for commercial reasons. Let us recognize and appreciate at their true value exactly the elements that are engaged in it.

State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: San Francisco, August 2. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg., San Francisco.

NEBRASKA: State House, Lincoln, August 10-11. Sec., Dr. E. Arthur Carr, 141 S. 12th St., Lincoln.

District of Columbia January and April Reports

Dr. George C. Ober, secretary of the Board of Medical Supervisors, reports the written examinations held at Washington, January 11-14. and April 12-15, 1910. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75.

At the examination held in January, the total number of candidates examined was 8, of whom 4 passed and 4 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Howard University	(1906)	75.1
George Washington University	(1908)	77.6
University of Iowa, College of Medicine	(1907)	84.4
Leonard Medical School	(1905)	76

FAILED

College	Year Grad.	Per Cent.
George Washington University	(1908)	72.5
Georgetown University	(1909)	69.5
Howard University	(1909)	73.3
Royal University of Naples	(1909)	71.3

At the examination held in April the total number of candidates examined was 10, of whom 6 passed and 4 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University (1908) 75, 81.3;	(1909) 75.8,	78.9
Howard University	(1909)	76.7
Royal University of Naples, Italy	(1909)	79.7

FAILED

College	Year Grad.	Per Cent.
Georgetown University	(1909)	**73.7
Howard University	(1909)	**70.3, *73.9
University of Virginia	(1903)	59.3

LICENSED THROUGH RECIPROCITY SINCE JANUARY 1, 1910

College	Year Grad.	Reciprocity with
College of P. & S., Baltimore	(1886)	Delaware
Maryland Medical College	(1905)	Maryland
University of Virginia	(1904) (1907)	Virginia

* Second examination.
** Third examination.

South Dakota January Report

Dr. F. W. Freyberg, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Sioux Falls, January 12-13, 1910. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 30, of whom 26 passed and 4 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Georgetown University	(1895)	1
Coll. of P. & S., Chicago	(1905) (1908) (2, 1909)	4
Northwestern University Med. School	(1908) (1909)	2
American Coll. of Med. and Surgery	(1905)	1
Rush Medical College	(1885) (1906)	2
Bennett Medical College	(1908)	1
Keokuk Med. Coll., Coll. of P. & S.	(1901) (3, 1908)	2
University of Iowa, College of Medicine	(1909)	2
Sioux City College of Medicine	(1908) (1909)	2
Univ. of Minnesota, College of Medicine	(1894) (1899)	2
Barnes Medical College	(1908)	2
Kansas City Medical College	(1895)	1
Creighton Medical College	(1908)	1
McGill University, Quebec	(1900)	1

FAILED

College	Year Grad.	Total No. Examined.
Hahnemann Med. Coll. and Hosp., Chicago	(1901)	1
University of Iowa, College of Medicine	(1908)	1
Sioux City College of Medicine	(1909)	1
Kansas City Hahnemann Medical College	(1904)	1

New Mexico April Report

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, April 11, 1910. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. Only one candidate, a graduate of the University of Tennessee, 1893, was examined and he failed with a grade less than 75 per cent. Twenty-eight candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

LICENSED ON CREDENTIALS

College	Year of Grad.
Northwestern University Medical School	(1900)
Illinois Medical College	(1902)
National Medical University	(1906)
Louisville Medical College	(1893) (1906)
Hospital College of Medicine, Louisville	(2, 1903)
University of Louisville	(1909)
Southwestern Homeopathic Med. Coll., Louisville	(1903)
Detroit College of Medicine	(1905)
Ensworth Medical College	(1900)
Barnes Medical College	(1897) (1898)
Washington University, St. Louis	(1904)
St. Louis College of Phys. & Surgeons	(1906) (1908) (1909)
Creighton Medical College	(1902)
Northwestern Medical College, St. Joseph	(1890)
Albany Medical College	(1898)
Cleveland Homeopathic Medical College	(1898)
Medical College of Ohio	(1895)
Jefferson Medical College	(1883) (1888)
Vanderbilt University	(1894) (1901)
Medical College of Virginia	(1901)
University of Virginia	(1895)

Arkansas May Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, May 10-11, 1910. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of *candidates examined was 92, of whom 73 passed and 19 failed.* Eighteen reciprocal licenses were granted. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas (1909) 79; (1910) 76, 77, 78, 78, 79, 80, 80, 81, 82, 82, 83, 83, 84, 89.		
College of Physicians and Surgeons, Little Rock (1910) 76, 79, 80, 81, 94.		
Hospital College of Medicine, Louisville	(1896)	83
Rush Medical College	(1870)	83
Tulane University of Louisiana (1910) 78, 79, 83, 83, 85, 85, 85, 87, 89, 89.		
St. Louis Coll. of P. & S.	(1896) 84; (1909)	75
Missouri Medical College, St. Louis	(1885)	82
Barnes Medical College	(1910)	88
Washington University, St. Louis	(1907)	86
University Medical College, Kansas City (1910) 79, 81, 83, 84, 85, 87.		
Vanderbilt University	(1897)	82
Meharry Medical College	(1910) 76, 79, 80	86
University of Nashville	(1889) 83; (1910) 75, 80, 81,	85
College of P. & S., Memphis	(1908) 85; (1910)	76
Memphis Hospital Medical College (1886) 82; (1906) 75; (1910) 76, 76, 77, 78, 79, 79, 81, 82, 85, 85, 90.		
Baylor University	(1910)	85
Southwestern University Medical College, Dallas	(1910) 78,	81
84, 85.		

FAILED

College	Year Grad.	Per Cent.
University of Arkansas	(1910)	69.2, 73.6, 74.4
College of Physicians and Surgeons, Little Rock (1909) 65.8; (1910) 56.4, 63.5, 64.9, 70.8.		
University of Louisville	(1909)	72.6
Ensworth Medical College	(1908)	68.6
St. Louis College of Physicians and Surgeons (1908) 67.3; (1909) 69.5.		
Meharry Medical College	(1909) 63.7; (1910)	71.3
College of Phys. & Surgs., Memphis	(1909)	70.3, 74.2
Memphis Hospital Medical College	(1910)	69.8, 71.2
Dallas Medical College	(1903)	69.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1902)	Illinois
Jenner Medical College	(1908)	Illinois
College of Physicians and Surgeons, Chicago	(1907)	Missouri
University of Louisville (1877) Missouri; (1892) Kentucky; (1907) Louisiana.		
Hospital College of Medicine, Louisville (1898) Indiana; (1892) Missouri; (1904) Kentucky.		
Kentucky School of Medicine	(1906)	Kentucky
Tulane University of Louisiana	(1896)	Louisiana
Barnes Medical College	(1904)	Missouri
St. Louis College of Physicians and Surgeons	(1903)	Missouri
Kansas City Medical College	(1905)	Missouri
Washington University, St. Louis	(1869)	Louisiana
Vanderbilt University	(1880)	Kentucky
University of Nashville	(1901)	Louisiana
University of Virginia	(1909)	Oklahoma

The following questions were asked:

ANATOMY

1. Describe the temporal bone. 2. Name and describe bone broken in Colles' fracture. 3. What muscles form the tendo Achillis and where is it attached? 4. Give origin and insertion with blood supply of deltoid muscle. 5. What structures pass under Poupart's ligament? 6. Give origin and distribution of portal vein. 7. Give origin and distribution of facial artery. 8. Name the coats of the eye from without inward. 9. Give nerve supply of stomach. 10. Give origin, course and distribution of abducens or sixth cranial nerve.

CHEMISTRY

1. Name five elements and give their symbols. 2. Define an acid, a base and a salt. 3. Define specific gravity. 4. Give composition of atmosphere. 5. What are the two albumins and how distinguished? 6. How would you remove stains of silver nitrate? 7. Give test for albumin in urine. 8. What is the chemical antidote for arsenic? 9. What is uric acid? 10. Complete the following formula: $CaCO_3 + 2HCl =$.

BACTERIOLOGY

1. Give a proper definition of bacteria. Name the three varieties or species of bacteria. 2. What is meant by inoculation? Vaccination? Intoxication? 3. State briefly the theory of immunity that appeals most to you. 4. Explain the mode of action of chemicals used for disinfecting. 5. Give the general mode of procedure for staining bacteria. 6. What is Gram's method of staining? For what is it chiefly used? 7. Describe the tubercle bacillus and give one method of staining. 8. Give method of differentiation between the tubercle and smegma bacillus. 9. What is the value of tuberculin as a diagnostic agent? As a therapeutic agent? 10. Give technic of the blood-serum diagnosis of typhoid fever.

HYGIENE

1. What trades predispose to tuberculosis? 2. What hygienic measures should be followed by those subject to "catching cold?" 3. Describe a sanitary method of disposing of human excretions in small towns and the country. 4. In what diseases should a high altitude be avoided and why? 5. What factors are preferable in the location of a sanatorium for tuberculosis? 6. To what diseases are negroes less susceptible than whites? 7. Define epidemic, endemic and pandemic diseases. 8. How may a physician guard against carrying a disease from one patient to another? 9. How may malarial districts be made healthy? 10. Describe in detail a thorough method of disinfecting a room.

PHYSIOLOGY

1. Describe cartilage. 2. Describe the spinal cord. 3. How does the pneumogastric nerve influence the heart? 4. What percentage of the body weight is lost before death from starvation? 5. What is the composition and action of saliva? 6. What is the source, composition and action of gastric juice? 7. Describe the course of the blood through the heart. 8. Describe the relations of the heart and blood-vessels to the lungs. 9. What are the different types of respiration? 10. What structures are necessary for the production of a secretion? Give three examples.

THEORY AND PRACTICE OF MEDICINE

1. Give diagnosis of amebic dysentery. 2. Give treatment of erysipelas. 3. Give diagnosis and treatment of lobar pneumonia. 4. How may pulmonary tuberculosis be early recognized? 5. Give differential diagnosis between malaria and typhoid fever. 6. Give diagnosis of chlorosis. 7. Give treatment of psoriasis. 8. Give medical treatment of gall-stones. 9. Give treatment of conjunctivitis. 10. Mention four diseases said to have a specific remedy and mention the remedy.

THERAPEUTICS

1. Give rule for determining dose for a child. 2. Describe the effects of an overdose of chloral hydrate. 3. What are the therapeutic uses of sodium chlorid? 4. What is the safest as well as one of the most efficient antipyretics? 5. What is the therapeutic action of resorcin? 6. Name the therapeutic uses of oleum tiglii. 7. What are the therapeutic uses of ichthyol? 8. Name three anodynes and give dose of each. 9. In what condition is camphoric acid especially indicated? 10. Name the therapeutic action of valerian.

OBSTETRICS

1. Why is it necessary to deliver the head hastily in breech or foot presentations? 2. What is the cause of phlegmasia alba dolens? 3. What factors make up the expulsive forces of labor? 4. What symptoms and signs would suggest pregnancy in a primipara two months pregnant? 5. Give diagnosis and treatment of a case of occipito-posterior presentation. 6. Give diagnosis and treatment of hydatid mole during pregnancy. 7. Give your management of the third stage of labor. 8. What are the causes of albuminuria and edema during pregnancy? 9. Describe the conditions likely to result in laceration of the cervix and the remedies and treatment you would employ to minimize the danger of such results. 10. How would you treat a case of placenta prævia?

MATERIA MEDICA

1. Differentiate materia medica and therapeutics. 2. Name two alkaloids of nux vomica and give dose of each. 3. Name the official salts of copper. 4. Name the antagonists of cocain and state which one you would prefer in case of cocain poisoning. 5. What is meant by a general anesthetic? Name three general anesthetics in common use. 6. Name three preparations of opium which are in common use and state the amount of each which represents one grain of opium. 7. What effect has benzoin on the urine? 8. Name the most powerful hydragogue cathartic and give its dose. 9. From what source is salicin derived and what is its dose and physiologic action? 10. From what is eserin obtained and what is its physiologic action?

PATHOLOGY

1. Describe the formation of an acute abscess. 2. What are the causes of hemorrhage? 3. State briefly the various etiologic theories of fever. 4. Describe an aneurism and state what conditions are essential for its development. 5. What are the more common pathologic changes found in the aged? 6. Give the significance of albuminuria. 7. What are the anatomic lesions of acute dysentery? 8. Name the pathologic conditions found in malarial hemoglobinuria. 9. What changes take place in the endocardium in chronic endocarditis? 10. Briefly, what changes are found in the spinal cord in advanced locomotor ataxia?.

GYNECOLOGY

1. Give the symptoms of salpingitis; also its varieties according to tubal contents. 2. Give the symptoms and treatment of gonorrheal vaginitis. 3. Give your treatment of a case of congenital atresia of the cervix. 4. What are the most frequent causes of pelvic cellulitis? 5. How would you perform trachelorrhaphy and when amputation of cervix in cervical lacerations? Give technic of trachelorrhaphy. 6. What is the differential diagnosis of ascites and ovarian cyst? 7. When is the uterine sound contraindicated? When is the curette indicated? 8. State the causes of sterility in women and treatment of same. 9. Give the active treatment of sapremia; also of septic endometritis. 10. Give the differential diagnosis of acute non-puerperal ovaritis and appendicitis.

SURGERY

1. Define malignancy. Describe the symptoms that characterize (*a*) benign tumors, (*b*) malignant tumors. 2. Describe Nature's effects at repair of (*a*) simple uninfected injuries of the soft tissues; (*b*) infected injuries of the soft tissues. 3. Give the symptoms and treatment of a penetrating wound of the chest. 4. Describe the varieties of hip-joint dislocation and describe in detail two of these varieties. 5. Give the technic of two methods of skin-grafting. 6. Describe lupus. Give the treatment of lupus vulgaris. 7. Give a classification of burns. State the constitutional effects and give the treatment of burns. 8. What is a sebaceous cyst, and how should it be treated? 9. Describe oval (Larrey's) method of amputation at shoulder-joint. What arteries need ligating? Give the method of inserting Wyeth's pins in shoulder-joint amputation. 10. Give in detail the examination tests that should be applied to determine the causes of coma in a patient whose history is unobtainable.

Georgia Homeopathic May Report

Dr. R. E. Hinman, secretary of the Homeopathic Board of Medical Examiners, reports that at the May meeting one candidate, a graduate of the Hahnemann Medical College and Hospital, Chicago, 1891, was licensed through reciprocity with Wisconsin.

Nevada May Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 2-3, 1910. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 4, of whom 3 passed and 1 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
New York University Medical College	1882)	77.9
Jefferson Medical College	(1902)	88.8
University of Dublin, Ireland	(1877)	84
FAILED		
Kentucky School of Medicine	(1906)	57.7

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1900) (1905)	Illinois
University of Michigan, Coll. of Med	(1893)	Minnesota
Creighton Medical College	(1906)	Nebraska
Cincinnati College of Medicine and Surgery	(1884)	Michigan

The following questions were asked:

ANATOMY

1. Describe location and name the divisions of the osseous labyrinth. 2. What mediotarsal joint is the weakest in the arch of the foot? 3-4. What bones enter into the formation of the ankle-joint? 5. Give origin and insertion of the trapezius muscle. 6. What is the combined action of the gastrocnemius and soleus muscles? 7. At what point in the neck does the common carotid artery divide? 8. Give location and approximate length of the fissure of Rolando. 9-10. How many pairs of cerebrospinal nerves are there? Of those how many pairs are spinal?

CHEMISTRY AND TOXICOLOGY

1. Give chemical test for determining the presence of lactic acid in stomach contents. 2. Give tests in detail for indican in urine. 3. Give the chemical reason why diabetics should abstain from starchy foods. 4. Describe the test for detecting the presence of strychnin. 5. What is synthesis? Mention three coal-tar products extensively used in medicine that are prepared in the chemical laboratory by synthesis. 6. State the antidote to practically all alkaloids, explaining its action. 7. What is tyrotoxicon, and in what is it found? 8. What is the treatment for poisoning by wood alco-

hol? 9. What emergency treatment should be used for poisoning by laudanum? 10. Name a poison, in poisoning by which fats and oils should not be administered. Explain.

PATHOLOGY

1. Give the pathology of amyloid liver. 2. Differentiate between epithelioma and lupus. 3. Give the pathologic changes occurring in a fracture of the skull at the base. 4. Give the pathology of the first and third stages of lobar pneumonia. 5. Give the pathology of erysipelas. 6. Give the pathology of pseudoleukemia. 7. Give the pathology of tabes dorsalis. 8. Discuss the pathology of gall-stone disease. 9. Give the pathology of acute gastritis. 10. Discuss the changes occurring in the spleen during an attack of typhoid fever.

BACTERIOLOGY

1. How is yellow fever conveyed, and how would you prevent its spread? 2. How would you manage a case of typhoid fever in a country with very poor sanitary conditions to prevent its spread? 3. Describe and name the bacillus of diphtheria. 4. How would you detect the tubercle bacillus? Describe it. 5. Describe the *Streptococcus pyogenes* and the *Staphylococcus aureus*, and where are they found? 6. What is meant by the terms antitoxin and immunization? 7. What do you know of the Noguchi method of the serum diagnosis of syphilis? How is tetanus antitoxin prepared and how does it act? 9. Describe the *Streptothrix actinomyces.* 10. Describe the Gram method of staining for bacteria.

PHYSIOLOGY

1. Describe the process of osmosis and give examples in the human economy. 2. Describe urea, its occurrence, variations in quantity excreted and recognition in the voided urine. 3. How can fresh blood stains be distinguished from older blood stains? 4. State where in the human economy the following substances are found: fibrin, chondrin, lucin, hippuric acid. 5. In what manner is the heart beat influenced by the pneumogastric nerve? What is the average number of heart beats per minute in (a) a child 1 year old, (b) an adult 70 years old? 6. Describe the vermicular movement of the stomach and intestines. What purpose does this movement serve? 7. Describe the glands and villi of the intestines. 8. Locate in the brain the seat of the special sense of sight, hearing and smell. 9. What would be the effect on digestion if the pancreatic duct were obstructed? 10. What is the office of the columnæ carneæ?

GENITO-URINARY AND DERMATOLOGY

1. Give the symptoms necessitating fixation of a floating kidney, and describe the operation. 2. Give the local treatment of venereal bubo. 3. What is hydrocele? Describe operations for its cure and state your choice. 4. Describe syphilis in all its stages, and give treatment of each stage. 5. Give symptoms of stone in the bladder. 6. Mention the most common sites of epitheliomata. 7. What is xanthoma? 8. What are the causes and treatment of keloid? 9. What are the causes, symptoms and treatment of bromidrosis? 10. What are the causes, symptoms and treatment of pompholyx?

PRACTICE OF MEDICINE

1. Discuss autointoxication. 2. Give etiology, symptoms and treatment of dilatation of the heart. 3. Differentiate typhoid fever, malaria and septicemia. 4. Describe the characteristic symptoms and course of morbilli. 5. What are the symptoms of abscess of the lung? 6. What is the etiology of progressive muscular atrophy? 7. Give the general symptoms of brain tumor. 8. Differentiate empyema from pulmonary abscess. 9. In what cases would the ophthalmoscope aid in diagnosis? 10. Describe a typical case of laryngismus stridulus.

SURGERY

1. Describe the anastomosis which takes place after ligation of
the femoral artery at its middle third. 2. At what point is para
centesis thoracis preferably performed? 3. What is an adenoma?
Give plan of treatment. 4. Through what channels is carcinoma
disseminated? 5. Where is the swelling and fluctuation most prom-
inent in synovitis of the ankle-joint? 6. Give a classification,
either original or from competent authority, of burns. 7. What
are the conditions which render excision of the lower jaw advis-
able? 8. What are the complications of dislocation of the hip?
9. Name the varieties of shoulder joint dislocation. 10. What oper-
ations are performed for intractable neuralgia of the fifth nerve?

MATERIA MEDICA AND THERAPEUTICS

1. What drug is antagonistic to pilocarpin? 2. State the source
of ichthyol, and give its use in medicine. 3. Describe the thera-
peutic action of spigelia. 4. Describe the therapeutic uses and the
dangers of chloral hydrate. 5. Give the chief source and the dose
of gallic acid. 6. Describe the therapeutic uses of chromium sul-
phate. 7. Describe the treatment of cerebrospinal meningitis. 8.
What are the therapeutic uses of strophanthus? 9. Correct the
following prescription:

℞.	Atropiæ Sulphati	grs. 1 ss
	Potas. Iodidi	½ oz.
	Infusæ Digitalis	½ fl. oz.
	Elix. Simp. q. s. ad	2 fl.oz.

M. S.: Teaspoonful in water four times a day.
10. Give the theory of the alkaline treatment of rheumatism.

OBSTETRICS

1. Give the signs, approximate weight and length, and two prin-
cipal diameters of the cranium of a fully developed fetus. 2. In
what proportion do twins to single fetuses develop? Triplets to
single fetuses? 3-4. Give diagnosis of fetal syphilis. What partic-
ular sign is most suggestive and generally accepted? 5. Give treat-
ment for inevitable abortion. 6-7. Give your technic in treatment
of face presentation. What is the fetal mortality in such cases?
With that of the maternal? 8. Give treatment of post-partum hem-
orrhage. 9-10. Give treatment for prolapsed cord. In whose posi-
tion is it generally recommended that the patient be placed?

Book Notices

The Health of the City. By Hollis Godfrey, Author of "An Elementary Chemistry," etc. Cloth. Price, $1.25 net. Pp. 372. Boston: Houghton Mifflin Co., 1910.

This is one of the commendable books appearing so frequently nowadays, intended to educate and inform the public in matters of public and personal hygiene and sanitation, in this instance with particular reference to cities. It takes up such subjects as air, water, waste, food, housing, noise, their harmfulness or harmlessness, and also of civic conditions working for evil, and emphazing the necessity of the citizen placing greater reliance on the deductions of modern science in matters pertaining to his welfare. Feeding is not only a sociologic but also an economic problem, and employers of labor should recognize more clearly that a stipend which affords a better diet means better work and more of it. Factory luncheons are an economic benefit to employers, and community kitchens would also be beneficial. The making of food is a problem of sociology and natural science, and improvement in this direction depends on the laboratory investigator whose researches are gradually reducing dietetics to a science, and on the public spirit of societies and corporations who will make an effort to benefit the individual, and increase total efficiency through individual gain in power. Much of the time spent in present methods of education might better be devoted to education in cooking and to the household arts. The author believes that the housing problem of the future lies outside the city walls. The vision of the time to come shows the suburbs encircling the massed workshops, the homes of the employees set in the green trees and surrounded by playgrounds and fertile gardens. The book is made up for the most part of a series of articles formerly appearing in the *Atlantic Monthly,* and has a distinct literary quality.

La Tension artérielle en clinique. Sa Mesure: Sa Valeur Séméiologique. Par le docteur Louis Gallavardin, Médecin des Hôpitaux de Lyon. Paper. Price, 4 francs. Pp. 206, with 70 illustrations. Paris: G. Steinheil, 2, rue Casimir-Delavigne, 1910.

The book is divided into two parts. Part I deals with the technic of sphygmomanometry. Part II is a treatise on the clinical value of blood-pressure determinations.

The author gives accurate description of the various instruments used in measuring and recording blood pressure. For the determination of systolic blood-pressure he prefers the Riva-Rocci method, using the wide arm-band. This method has been experimentally verified in man by Müller and Blauel at the seat of amputation of the arm. They found that the Riva-Rocci reading was about 7.5 per cent. higher than the pressure obtained by a cannula within the artery. For determining the diastolic pressure Gallavardin prefers the method which permits one to perceive the first arterial collapse as the arm bracelet is relaxed.

In the clinical portion of this monograph the usual causes of hypertension and hypotension are set forth. The author considers hypotension so constant in atrophic cirrhosis and in pulmonary tuberculosis that the finding is of great diagnostic value. The "pulse-pressure" is discussed at length. Its chief value is in throwing some light on the amount of work performed by the heart.

The book is written in an interesting and suggestive style, but one is not impressed with a richness of clinical observation. No spaco is given to the important rôle of therapeutics as it relates to disturbances of blood-pressure.

Heart Disease, [illegible] and the Nauheim-Schott
Treatment. By Lc [illegible] A.M., M.D., Clinical Profes-
sor of Heart and [illegible] Fordham University. Pp.
284; with illustrations. Third Edition. Cloth. Price, $3. New
York: E. B. Treat and Company, 1909.

This edition differs from its predecessors chiefly in its con-
sideration of the so-called Schott or Nauheim treatment.
This is briefly considered, both as it is carried out at Nauheim
and as it may be practiced in other places. The technic of
the resistance movements is made plain by figures with good
descriptive text.

The rest of the book is much the same as in the second
edition, which has been previously noticed. It is in no sense
a treatise on heart disease or blood-pressure—in fact, makes
no claim to be such—but contains rather the personal views

of the author on some of the questions pertaining to these conditions. Emphasis is laid on the importance of the peripheral vessels in the production of permanently high blood-pressure; and the influence of mental hyperactivity and of the strenuous life in ultimately leading—through peripheral vascular contraction and overwork of the heart—to high blood-pressure and cardiac hypertrophy with consequent cerebral, cardiac or renal breakdown, is clearly set forth. Attention is justly called to the occurrence of primary and secondary low blood-pressures.

The book contains many suggestive hints as to physiologic and practical points concerning circulatory disease.

Diseases of the Eye. A Hand-book of Ophthalmic Practice for Students and Practitioners. By G. E. deSchweinitz, M.D., Professor of Ophthalmology in the Univer [illegible] phthalmic Surgeon to the University Hosp [illegible] h. Price. $5 net. Pp. 945, with 351 [illegible] : W. B. Saunders Co., 1910.

Much new material has been added in the sixth edition of this work and the former work thoroughly revised. Almost every department has been amplified. In refraction the use of the crossed cylinder is discussed. Especially valuable is the part dealing with the important subject of the relation of nasal accessory sinus disease to disease of the ocular apparatus. Many new operative procedures are described, notably those of Herbert and LaGrange, for establishing filtering cicatrices in glaucoma, and the Smith operation for the removal of cataract in the capsule. The chapter on plastic operations about the orbit and on the lids has been enlarged. The author's well-known and recent work on papilledema in brain tumor has been added. The subject of vaccine therapy has also been fully dealt with and especial attention has been given to ocular tuberculosis and the use of tuberculin in diagnosis and treatment. Altogether, this text-book continues to hold the front rank among ophthalmic manuals that it has occupied for so many years.

Medical Vademecum in German and English. By B. Lewis. With Preface by Dr. A. Politzer. First Edition. Cloth. Price, $5 net. Pp. 559. Philadelphia. P. Blakiston's Son & Co. [1910].

We have in this work an ingenious method of conveying at the same time a knowledge of medical German and information on important medical topics. The plan consists of giving in German and in English, on opposite pages, the text of postgraduate lectures by the teachers at the Vienna school. The German and the English translation are constructed in such manner that no dictionary is necessary in reading the text. The student thus becomes acquainted with the usual medical terminology and by numerous examples learns the phraseology needed for conducting the examination of a patient in a foreign language. The lectures, to the number of sixty, cover a variety of topics in the various specialties of medicine. We hope that this experiment will assist greatly in the acquisition of the German language by American physicians studying abroad, and will also facilitate the acquisition of a more intimate acquaintance with German medical literature.

Kurzgefasstes Lehrbuch der Kinderheilkunde für Aerzte und Studierende. Von Dr. Carl Seitz, A. O. Universitätsprofessor und Vorstand der Kinderpoliklinik am Reisingerianum in München. Third Edition. Paper. Price. 13 marks. Pp. 558. Berlin: S. Karger, Karlstrasse 15, 1910.

As the name implies, this book is a brief but comprehensive text-book of pediatrics for students and practitioners. It is lucidly and concisely written and embodies the results of the very latest researches in every department of pediatrics. It records, for example, the very most recent and epoch-making work of the Berlin school (Finkelstein, etc.) in the subject of infantile nutrition and its disturbances. Beyond this the work offers no striking individuality, and no superiority over other well-known German text-books on diseases of children.

Handbook of Anatomy. Being a Complete Compend of Anatomy. Including the Anatomy of the Viscera and Numerous Tables. By James K. Young, M.D., Professor of Orthopedic Surgery, Philadelphia Polyclinic. Third Edition. Cloth. Price, $1.75 net. Pp. 402, with 172 Illustrations. Philadelphia: F. A. Davis Company, 1909.

This is the third edition of a handbook prepared for students and those wishing to review the subject. The book is more elaborate than a quiz-compend and more condensed than a text-book. It will doubtless be of value to those desiring an up-to-date summary of the subject.

Medicolegal

Validity of Health Department Regulations of Ice Cutting

The Third Appellate Division of the Supreme Court of New York says, in People vs. Kirk (119 N. Y. S., 862), that the right to take private property without compensation for the public good is an extraordinary right, justified only by absolute necessity. Where the public good can be conserved by the regulation of a right, the power to destroy does not exist. It would seem undoubted that the harvesting of ice might be placed under such regulations as to give substantial guaranty that the purity of the water would not be endangered. With the possibility of efficient regulation, to prohibit the cutting of ice, or of the necessary means thereto, is beyond the power of the health officer. A contrary holding would work both private and public mischief. Much of the ice throughout the state is harvested from lakes or ponds, which are to an extent the source of the water supply of cities and villages. The power to prohibit the taking of ice from such sources would deprive the public of a large part of the ice which is now furnished for its health and comfort. These considerations are not without weight in the condemnation of a health order so drastic as the one involved in this case, which prohibited the cutting of ice with men and teams on lakes and ponds used as a source of water supply for cities and villages.

It was insisted, however, that if that part of the order prohibiting the cutting of ice be void, nevertheless the remainder might stand, namely, that part forbidding horses and men from going on the ice. It does not appear, however, that ice can be otherwise harvested. These are the instrumentalities that are ordinarily used for that purpose. If their use be prohibited, the harvesting of ice is practically enjoined. On the evidence the danger to the public health lies in the chance of contamination from typhoid germs; but horses never have typhoid fever, and men so afflicted are not usually at work in ice fields. Even if it be assumed that a man might have typhoid for some time before it is diagnosed, the possibility of danger is so remote as not to be substantial. If this order, prohibiting men and teams from going on ice where the water may be used for general purposes, be valid, the cutting of ice may be stopped on the Hudson river, and in fact on any river in the state, which would be a result more deplorable than would come from the possible slight contamination by reason of the use of horses and men in harvesting ice under proper restrictions and regulations.

Therefore the court holds that a release of a party from imprisonment for violating the health-department order in question must be affirmed.

Appointment, Contract With, Removal and Compensation of City Health Officer—Powers of Board of Health

The Court of Appeals of Kentucky says, in Young vs. City of Ashland (125 S. W. R., 737), that there is no provision in the charters of cities of the fourth class with reference to the election of health boards, or health officers, so that sections 2059 and 2060 of the Kentucky Statutes apply to such cities. Under the statute, the appointment or removal of health officers is not lodged in the city council. The only authority the council has is to provide for the health officer a reasonable compensation for his services. The power of appointment as well as removal of this officer is lodged in the board of health.

As the board of health, as it had the right and authority to do, removed Dr. Young from office, it is manifest that he could not by virtue of his contract with the city for compensation as health officer maintain an action for a breach of the contract based on his removal from office. He took the office under and subject to the statutes giving the board of health the right to remove him at any time. And so his removal could not be a breach of contract. The only action that Dr. Young could maintain would be one to require the council to compensate him for his services during the time he acted as health officer under the appointment of the board of health.

But, while it was virtually conceded that the city was not under an obligation to compensate Dr. Young as health officer after his removal from office, it was nevertheless insisted that the city council had the power under the city charter to enter into a contract with Dr. Young for the performance of services in connection with the health of the city, and that independent of his appointment as health officer by the health board the city had the right to and did make, through its mayor, a contract with him by virtue of which he undertook to perform a number of duties not imposed on him as a health officer appointed by the board of health. The court does not doubt the authority of the council in a proper state of case to enter into a valid contract with a physician to conserve the health of the city, nor does it doubt that a municipal corporation is liable for a breach of a valid contract entered into by it. Therefore, if it should be assumed that the city council, independent of the board of health and for good and sufficient reasons, entered into the contract in question with Dr. Young it would follow that he might maintain an action against the city and recover damages for a breach of the contract. However, this view of the law had no application whatever to this case, it being clearly established by the proceedings of the board of health as well as the ordinances of the city that the contract entered into by the mayor with Dr. Young was due entirely to the fact that he had been appointed by the board of health as officer for the city. That the contract specified duties not imposed by law or the regulations of the board of health on officers appointed by it did not change this fact.

In disposing of this case the court has assumed that the contract in question entered into between the mayor and Dr. Young was a valid contract for the time he was health officer, although it might well be questioned if the mayor had the authority to enter into any contract with him or to define or prescribe his duties. The mayor did not appear to have been authorized by ordinance or resolution of the board or council to enter into a contract with Dr. Young, nor did the contract purporting to have been made with him appear to have been ratified or approved by the council. In the court's opinion the removal of Dr. Young by the board of health terminated the obligation of the city to pay him further as health officer. Wherefore, a judgment allowing compensation up to the time of his removal, and dismissing the remainder of the action, is affirmed.

Medical Witness Not Allowed to Testify to Surgeon's Competency

The Supreme Court of Alabama says that in Louisville & Nashville Railroad Co. vs. Elliott (52 So. R., 28), a personal injury case brought by the latter party, during the examination of a medical witness the witness testified that a competent surgeon who examined the plaintiff at the time he was hurt would be in a better situation to tell whether he had a fractured pelvis than he (the witness) and that he knew Dr. P. The question was then asked: "Is he a competent surgeon?" This question was objected to, and the objection sustained. In that there was no error. Without the testimony of Dr. P. it would be immaterial whether he was competent or not. He was subsequently examined, and testified as to his medical education and his experience in the practice. It was for the jury to determine what weight to give to his testimony, while it was the province of the court to determine his competency to testify as an expert, which the court did, by admitting his testimony.

Cross-Examination May Extend to Trivial Details

The Supreme Judicial Court of Massachusetts says, in the personal injury case of Minihan vs. Boston Elevated Railway Co. (91 N. E. R., 414), that the plaintiff clearly had the right to cross-examine the defendant's medical expert as to the grounds of his opinion, including what took place at the examination as to her physical condition, which he conducted in the presence of her physician, and whatever was said or done at the interview was competent, even if the inquiry extended to trivial details.

Society Proceedings

CONNECTICUT STATE MEDICAL SOCIETY

One Hundred and Eighteenth Annual Meeting, held at New Haven, May 25-26, 1910

(Concluded from page 339)

Treatment of Infection Following Abortion, Miscarriage and Labor

DR. C. A. MONAGAN, Waterbury: The ideal treatment is preventive—the development of a complete, rigid, aseptic technic. The general use of rubber gloves cannot, unfortunately, be enforced. When the condition is actually present, before the system has become loaded down with bacteria, the uterus should be curetted with a blunt curette; now, if at any time, intrauterine douches may be of service. Antistreptococcus serum has been disappointing in its results. As the prognosis of this grave condition changes very rapidly, undue credit is sometimes given to the remedy last used. The autogenous vaccine treatment has not had very good results, especially in cases of the acute type. The application of hyperleucocytosis often fails to arrest the contagion. I have not seen any good results follow the use of unguentum Credé. Ergot does good by contracting the uterus, thus preventing further infection. The medical treatment is the ordinary supporting treatment used in fighting any toxic condition. All drugs irritating to the stomach should be avoided. The patient's strength should be kept up by a liberal supply of nutritious food. Salt solution in large quantities is the best single means of controlling the inroads of sepsis. The temperature should be controlled with wet packs, sponging, cold baths, and abdominal coils. Opening into Douglas' pouch and packing with iodoform gauze has been advocated; also hysterectomy, for those patients who fail to improve after curettage. The latter procedure would be of use in cases caused by the presence of a suppurating tumor. In septic peritonitis, multiple incisions, thorough drainage, and the constant use of saline rectal infusions offer the best means of treatment. If a collection of pus can be located, it should be opened and drained.

DISCUSSION

DR. S. M. GARLICK, Bridgeport: While I would not abate one iota of the needful care in all cases of labor, I am far from convinced that every maternity case should have the same preparation and management as an abdominal section requires. The modern woman, with her highly apprehensive organism, is often brought to the verge of a state of nervous breakdown by the anticipation, worry, and fear engendered by such elaborate, detailed and expensive preparation. So often has my hospital experience shown me the bad results of indiscriminate and routine curettage that I am sometimes led to wish it had never been introduced. Antistreptococcus serum has been disappointing in my hands and under my observation. With autogenous vaccine treatment, I have had no experience. Two cases of hysterectomy for septic metritis have proved fatal. I have had no experience with unguentum Credé.

DR. R. W. CRANE, Stamford: Dr. Monagan outlined one method of treatment after another, as did Dr. Garlick afterward; and both said that these were all without merit. The treatment is prevention.

DR. T. G. SLOAN, Hartford: I recently saw in consultation a woman who died, at the end of ten days, of puerperal septicemia. It did not seem that she could have been infected by the physician who delivered her. I do not think that any douches were used previous to the confinement, and no nurse came in contact with the patient in a way to infect her. The woman's mother and sister had both died of puerperal septicemia. Where the infection came from, unless from the vagina, it is impossible to say.

DR. A. H. WILLIAMS, Hartford: If the patient realizes that perfect cleanliness will insure her recovery, care of that sort will not scare her. The meaning of the precautions should be explained to her.

Surgical Treatment of Gastric and Duodenal Ulcer

Dr. E. J. McKnight, Hartford: The surgical treatment of gastric and duodenal ulcer and their complications shows a lower mortality and a higher percentage of permanent cures than can be produced by medical treatment alone. None of the complications or sequelæ, except hemorrhage, usually occurs early in the disease, and it is a question whether a perfectly healed, non-indurated scar following ulcer ever gives rise to further trouble. The healthy stomach has the same tendency to recover from injuries caused by traumatism as has any other healthy organ. In patients who do not recover, some extra factor is at work. Investigations point to hypersecretion and hyperchlorhydria as the most important factors in preventing the normal process of repair. The beneficial effects of a gastroenterostomy are due to regurgitation of biliary and pancreatic secretions into the stomach, neutralizing to some extent the excess of hydrochloric acid, rather than to a better drainage of the stomach. I prefer the grouping of symptoms used by Graham in The Journal of the American Medical Association, August 22, 1908. If the ulcer is located in the abdomen, gastroenterostomy is the operation of choice. In gastric ulcer, however, the removal of the ulcer is the only proper procedure for some cases; although in a majority of cases, a posterior gastroenterostomy is sufficient. Operation is rarely needed for the control of hemorrhage itself. One of the most serious complications of ulcer is perforation, which is more frequent when the ulcer is situated on the anterior wall. The results of the operation performed during the first few hours after perforation are exceedingly good. The patients should be watched as carefully after the operation as before, until a sufficient time has elapsed to enable the attendant to be certain that a permanent cure has been effected.

DISCUSSION

Dr. O. C. Smith, Hartford: It takes a reasonable length of time to determine whether medical treatment is to be successful or not. After this, the ulcer becomes a surgical disease. The fact that conditions lower down develop symptoms so similar to those of gastric ulcer that they are confused with it has been referred to; and the fact that many carcinomas develop on the basis of a gastric ulcer emphasizes the importance of early operation. It is not possible to tell before operation just what condition we are dealing with, and this argues for more frequent resection of the portion of the stomach bearing the ulcer. We should use a soluble material for sutures in the inner coat.

Dr. E. W. Smith, Waterbury: It is unusual to find present in one patient a healed ulcer and the production of symptoms of pyloric stenosis due to conditions lower down in the intestines. I have seen a case that showed these points. The man had had a peptic ulcer that had been healed by medical treatment. He then had pylorospasm simulated by an irritated appendix. When there is a gastric ulcer, the appendix had better be looked out for also.

Dr. W. H. Carmalt, New Haven: I think that Dr. McKnight has not made so much of the symptomatology of supposedly cured patients as he should. The condition of relief obtained from a course of medical treatment is not a cure, but simply a temporary condition of improvement. When several such series of symptoms occur in a patient, it is time to cease medical treatment.

Dr. W. F. Verdi, New Haven: There is a difference between a chronic ulcer and a perforating ulcer. Perforating ulcers come on, as a rule, in persons between 28 and 30 years of age. The symptoms are not usually severe, and the patients are able to continue their work. They are usually seized with the perforation while at work, and are brought to the hospital suffering intense pain that requires immediate relief. At first, it is the right half of the abdomen only that is affected. The intestinal contents are poured out under the surface of the liver, and go toward the right iliac fossa. The chronic ulcer is different. The patients have a long train of symptoms, going on over a number of years; and in these cases there is not much danger of perforation, because the ulcers are protected from perforation by a great many adhesions that form about them.

Dr. L. M. Gompertz, New Haven: It is extremely important for the medical man constantly to bear in mind that ulcers of the stomach and duodenum are much more common than is usually supposed. When patients complain of pain on an empty stomach, relieved by eating food, and then coming on again within from two to four hours, one should be suspicious of the presence of an ulcer at the pylorus or lower down. When an early diagnosis is made, the very acute ulcers are sometimes benefited by medical treatment; but it does not make any difference how patients with chronic ulcers are treated, for they will still have the ulcers. If they are to be cured they must be sent to the surgeon for operative treatment.

Dr. McKnight: We are all coming to feel that for ulcer of the stomach resection or partial gastrectomy is the operation of choice, considering the large numbers of cancers that develop on the basis of ulcers. I have operated in more cases of appendicitis that simulated gastric disease than I have on gastric ulcers; so these cases are not so rare as Dr. Smith thinks. Regarding Dr. Verdi's distinction between the two classes of ulcers, I would say that in the case of a man of 55 there was a chronic ulcer with sudden perforation.

Treatment of Fractures

Dr. G. W. Hawley, Bridgeport: The treatment of fractures does not appear to have kept pace with the advance of modern surgery, and does not meet present-day needs. The enormous number of persons who are crippled every year as the result of fracture offers a challenge to surgical science. This industrial age will soon ask what is being done to lessen the great industrial loss through fractures. There is room for common sense in laying down principles on which treatment should be based. In all fractures, the bones tend to unite without assistance of any kind. The most that we can do is to help Nature to obtain useful union, and the only way to do this is by approximating the ruptured tissues, on the principle that the more accurate the approximation, the more perfect will be the repair. There is need for better means of holding divided bones in apposition, and there is opportunity for improvement in the technic of operations on fractures, based on the fact that bone stands trauma or infection but poorly. There is no reason why we should not repair an injured bone as readily as we would any other injured structures, and there is great reason to believe that the future will see an increased interest in fractures and a creditable advance in their treatment.

DISCUSSION

Dr. P. D. Bunce, Hartford: In general surgery, if the patient dies, he dies in an orthodox manner; and that is the end of him. If he has a fracture, however, and he has any final disability or deformity, the surgeon is judged to be the cause; and a monument of his skill exists so long as the patient lives. In general, accurate replacement of bones gives the best results, regardless of particular kinds of splints. Severe laceration of the soft parts often makes the application of splints and supports very difficult. Sutures of soft parts should practically never be used in compound fractures. In my opinion, any method of fixation in which nails or drills are allowed to remain projecting through the skin is bad. I believe that *x*-ray pictures should usually not be shown to the patient.

Dr. W. H. Carmalt, New Haven: I am rather surprised at the pessimism of Dr. Hawley compared with the optimism that I feel with regard to our success in the treatment of fractures. The principles of the care of fractures have not changed; we simply must restore the parts as nearly as we can. In these days of antiseptic surgery, there is no reason to hesitate to attack a bone that is not in good position and in which one thinks that there will be a bad functional result. It is not worth while to cut down on every bone that the *x*-ray shows is not in perfect apposition; if, from experience, one feels that the limb is going to be useful, let well enough alone.

Dr. S. M. Garlick, Bridgeport: It is all very well to take the public into our confidence, provided that everything is all right; but sometimes we discover that some things are not so right as we would like to have them. *Professional confidence* is wise and safe, but public confidence must be very carefully scrutinized.

Dr. Hawley: We certainly see a large number of deformities following fractures, and it has been impressed on me that a large proportion of these are unnecessary. In some fractures, too much treatment is done. I think that in a good many cases, little or no treatment other than protection is necessary.

Some Principles of Intracranial Surgery

Dr. W. H. Verdi, New Haven: The greatest difficulty encountered is not in the surgical technic, but in the cerebral localization. One should not wait too long after making a diagnosis of increased pressure before decompressive measures are instituted; if one does, there is danger of loss of vision. I do not consider operations on the brain and cord any more dangerous than operations elsewhere. The most troublesome thing encountered is hemorrhage; and infection is the second chief factor in the mortality of these operations. In my whole series of cases, however, I was obliged to stop only once on account of hemorrhage; and the only case of infection was that of a child operated on for a tumor of the cerebellum that at the time of operation proved to be a tuberculoma. This operation was performed in a private house, and the patient afterward became infected. There is nothing to be gained by the introduction of needles into the various parts of the brain in the exploration of tumors, as they usually have a consistency not very different from the brain itself. An operation for decompression is indicated in all cases that cannot be localized. I have seen the administration of iodids and mercury to patients with symptoms of intracranial pressure kept up until the patient's vision was destroyed. The use of chloroform or ether as the anesthetic is a mere matter of individual choice. While the results of operations for tumor of the brain are not so satisfactory as they should be, I consider the operation itself comparatively devoid of danger.

DISCUSSION

Dr. L. W. Bacon, New Haven: What little I have to offer in the way of remarks is based on a case of brain tumor in which Dr. Verdi was kind enough to assist me. The interesting part of the condition was the after-progress of the case. A hole was left in the brain substance as large as a turkey-egg. When we came to withdraw the last piece of gauze, and there was nothing left in the cavity to act as a cushion, we had a repetition of the pressure symptoms. For an interval of three or four days, the progress of the case was somewhat in doubt. After that, the woman went along very nicely to recovery; and she is well to-day. So far as I know, this was the first case of brain tumor removed in this city with the survival of the patient. Another case was one of the largest brain abscesses that I have ever seen. There was almost complete blindness when the operation was done, and there was entire recovery except for the sight. If the operation had been done a week earlier, I think that the girl would not have been blind to-day. This emphasizes the fact brought out by Dr. Verdi, that when cerebral compression exists, interference must not be too long delayed.

Dr. M. Mailhouse, New Haven: I suggested to Dr. Verdi that in a case of cerebellar tumor in which there was marked bulging of the cerebellum from the great intracranial pressure, a slight incision be made between some of the laminæ, thus possibly permitting the pressure to extrude the growth. This actually took place, and the patient was saved the loss of any material amount of brain substance. This same procedure might equally well be pursued in other areas of the brain. Opinions as to the presence of neoplasms based solely on the appearance of choked disc and pain are sometimes erroneous, as specific disease at the base may give this picture; yet when in doubt, and the optic discs are in such a condition as to threaten vision, the safest procedure for the patient is at least a decompression operation. In cases of fracture without extreme evidence of local injury, when the symptoms indicate increasing hemorrhage, the unilateral dilatation of the pupil is often an aid in localization. Of greater value, however, is the occurrence of unilateral convulsions on the contralateral side. That convulsive phenomena indicate cortical irritation was evidenced by the case reported by Dr. Verdi, in which, also, immediate incision of the dura at the time of the operation, in order to relieve pressure, was indicated. In the prognosis of the results after operation, one should be guarded.

Dr. W. H. Carmalt, New Haven: The last sentence of Dr. Mailhouse's remarks leads me to speak of a case of operative infiltrating glioma of the cerebellum in a patient previously operated on unsuccessfully for decompression, the boundaries of the tumor not being made out. There has been no recurrence of the tumor since, and I think that these cases are worth putting on record.

Treatment of Tuberculous Patients Outside the Sanatorium

Dr. B. D. Deming, Waterbury: Tuberculosis is a disease that needs careful medical attention and nursing. The attempt to treat outside of sanatoria patients in the social station in which the disease abounds is a poor substitute for sanatorium treatment. The disease, however, will not be eradicated by the establishment of sanatoria that admit only patients in incipient stages, while rejecting those in advanced stages and discharging patients who they fail to improve. The latter will become advanced cases, and thus spread the disease among others. Tuberculosis may be prevented, but not without the expenditure of vast sums of money to care for advanced and chronic cases in sanatoria, and to aid the different families thus deprived of their wage-earners. The giving of employment to uncured patients discharged from sanatoria is not unattended with danger to the community. The first and most important factor in the treatment of tuberculosis is to prevent its communication to others, and the second is to benefit the patient. Both these factors are, with the vast majority of patients, more advantageously carried out in a sanatorium than at home.

DISCUSSION

Dr. David R. Lyman, Wallingford: There is no tuberculous patient who does *not* have to be treated outside the sanatorium. Practically all that the sanatorium does is to arrest the disease. Every tuberculosis patient needs treatment for years after he gets home. The most dangerous point in the case is when the patient has got where he looks and feels perfectly well. He then has anatomic but not clinical tuberculosis; but he must be watched for several years, in order to make certain that the anatomic disease does not become clinical. We often see cases of tuberculosis carried on to arrest by the general practitioner as thoroughly as in any sanatorium; but this is not enough. The patient should be instructed to come back for examination at regular intervals, whether he is feeling badly or not. I do not believe that a good light indoor occupation is so bad for such persons as it is considered to be. If the patient's life can be regulated during the fourteen hours when he is not at work, he will probably recover. If he has a sleeping-porch he is out of doors a good part of this time. I do not believe in forced feeding or in overfeeding. Most of the stomach symptoms are due to this.

Dr. Henry F. Stoll, Hartford: There are many people who can work and recover from tuberculosis; and a good many people who can play, and recover; but very few who can both work and play, and get well. If these patients will go to bed at half past seven, a good many will recover and stay well under home treatment. With private patients, good results are obtained with tuberculin; it relieves the toxic symptoms and that is a great help. Patients who take tuberculin relapse less frequently and live longer than those who do not take tuberculin; but great harm can be done if it is not used properly.

Dr. I. E. Brainard, Wallingford: The handkerchief that is held before the patient's mouth when he coughs should be well taken care of afterward, and not stuffed into the pocket with damp sputum on it.

Dr. E. P. Swasey, Hartford: Outdoor treatment is not possible in our part of the country in certain seasons. In March we had high winds and the atmosphere was filled with dust. Many persons, unless especially instructed, would keep the patients outside in such weather, thinking it beneficial.

Dr. Deming: The matter of climate and location must be taken into consideration; but one of the greatest advantages of keeping the patient out of doors, even when it injures him, is the decreased risk of exposure to the other members of the family. A piece of gauze, sufficiently thick not to wet through, is better than a handkerchief, as it can be burned.

Some Features of Rectal Alimentation

Dr. L. M. Gompertz, New Haven: There is a wide difference of opinion among investigators as to the absorptive power of the rectum. In some experiments that I conducted in order to determine this point, I found salt to be absorbed almost as completely as when given by the mouth. Dextrose was either completely absorbed or was made to disappear through fermentation. As all authorities agree that there is practically no absorption of fat from the rectum, no experiments in this direction were made. If nutrient enemata do not reach the small intestine, proteins not predigested, when injected into the rectum, simply putrefy in the large intestine and pass out with the feces. Of the carbohydrates, dextrose was selected because the bulk of carbohydrate food reaches the blood as dextrose. If absorbed in sufficient quantity, it would take the place of protein. From these experiments it was evident that only a little over one-third the necessary amount of calories to sustain the body at rest was daily furnished by the dextrose solutions. Although the experiments were limited to the use of water, sodium chlorid and dextrose solutions, we must conclude that the rectum is capable of absorbing these in the form of rectal enemata; furthermore, that such substances, when absorbed, are helpful in nourishing the body and in supplying fluids and salts to the tissues. Therefore, I consider rectal enemata as useful in sustaining the body in emergency circumstances, preventing complete starvation for a short period.

DISCUSSION

Dr. L. B. Mendel, New Haven: The earlier favorable impressions of rectal feeding have largely been replaced by a skeptical attitude on the part of clinicians, and properly so. Our knowledge of the physiology of the alimentary tract has been greatly extended. It ought, therefore, to be possible to introduce anew such features of rectal alimentation as are promising in principle and susceptible of clinical application. Observations like these emphasize the helpfulness that comes from being able to measure in some way the results that any therapeutic procedure can accomplish.

Dr. C. J. Foote, New Haven: A nutrient enema is a makeshift, designed to meet an emergency, and cannot be continued for any length of time. It is not intended to furnish proteid or build up the body; but merely to furnish heat and energy, and to prevent retrogression. This can be done by using dextrose in the enema. Dextrose is absorbed rapidly, and furnishes energy; proteid is absorbed less rapidly, and does not furnish energy so quickly. I cannot, therefore, see the advantage of using it, even when predigested. Alcohol fills very much the same place as dextrose. As for the absorption of salt, we should be on our guard in certain cases. I have seen instances in which salt solution was taken readily in cases of uremia, and large quantities were given; but, at the same time, there was a small excretion of urine, so that a great deal was retained in the system. The patient, in such circumstances, becomes water-logged and develops edema of the lungs.

Dr. F. P. Underhill, New Haven: Most of the physicians with whom I have talked seem to think that because we cannot supply the entire 1,800 calories, there is no use in employing rectal feeding. I think, however, that it is much better to give half a loaf than to give none. Under the conditions that I have worked with, the carbohydrate rectal feeding has been very successful.

Dr. W. L. Barber, Waterbury: On one occasion, my wife could retain nothing on her stomach but water. For over a week, I kept her up on rectal alimentation, using milk, beef-juice, whisky and quinin. I do not know whether the rectum received these or the lower intestines, but she recovered.

Dr. J. F. Calef, Middletown: I believe that in vomiting of pregnancy of the severe type, there is, more than is usually apparent in any other disease, a reversed peristalsis, which may carry rectal alimentation more readily to the stomach than in any other case; for I am sure that in one case that I had, a very small portion of milk was carried up into the stomach.

Dr. E. Pratt, Torrington: Has Dr. Gompertz made any experiment with predigested protein in connection with the dextrose?

Dr. G. A. Eliot, New Haven: We have all had experience with the difficulty in getting these enemata retained in some cases. It seems a very useful preparation to have the milk partly peptonized by the addition of bicarbonate of soda and extract of pancreas. I have used this, at times, with beneficial results.

Dr. Gompertz: I have given predigested protein in days gone by, but had no analysis of the feces made in these cases; so I do not know whether these enemata were absorbed or not. Patients can live for weeks with only water by rectum; but they are in the beginning stage of starvation, as they live on the tissues themselves. As no accurate measurements were made in the case that Dr. Barber spoke of, I think it very doubtful whether any nutrition was furnished by the milk. With the dextrose solutions, we were able to supply nutrients.

Chronic Family Jaundice

Dr. W. Tileston, New Haven: The disease is characterized by chronic icterus, of moderate intensity, with enlargement of the spleen and anemia. It is usually hereditary; less often, familial or acquired. Males and females are affected with equal frequency. The jaundice is of the non-obstructive type, with well-colored stools and absence of bile in the urine. There is usually a marked urobilinuria. The blood shows the presence of bilirubin and a considerable degree of anemia of the secondary type. The spleen is markedly enlarged; the liver, only slightly so. The patients suffer frequently with "bilious attacks," gallstone colic, and nosebleed; but are otherwise fairly healthy, and often live to a good old age. The red corpuscles are abnormally fragile and readily destroyed; hence, the anemia, and an increased formation of bile pigment from the hemoglobin thus set free. This leads to the icterus, which is pleiochromatic in origin. The prognosis is good for life; absolutely bad for recovery. Treatment should be confined to general hygiene. Iron may be tried for the anemia. The presence of colic is an indication for the operative removal of the gall-stones. I have reports of thirteen cases, occurring in four families.

DISCUSSION

Dr. G. Blumer, New Haven: When the patients are first seen at night, they ought to be seen again in the daytime, in order to make out the jaundice. Has Dr. Tileston seen any suggestion of a relation between this disease and paroxysmal hemoglobinuria, another disease in which there is excessive fragility of the red blood corpuscles? So far as I know, although other varieties of hemolytic jaundice have been described, there is no statement to the effect that there is an absence of bile in the urine in these other forms. Another point that might cause confusion is the so-called Gaucher's disease, in which there is family enlargement of the spleen, but not usually associated with jaundice. It is interesting to consider whether, if there were actual obstruction from gall-stones, as well as the other type of jaundice, the urine would contain bile. One other point that should be emphasized is not to remove the spleen in such cases.

Dr. Tileston: There was one case in which there was a condition of paroxysmal hemoglobinuria associated with the family jaundice, but there is not a very close relationship between the two diseases. Regarding the absence of bile in the urine in other types of hemolytic jaundice, there was usually no bile, but only urobilin; although in some cases there was a small amount of bile. Eleven of the twelve reported instances of Gaucher's disease were in females, so it would be unlikely to have been Gaucher's disease in my cases. When the patients get obstruction with gall-stones, they also get bile in the urine, with increase of jaundice.

Periodic Attacks of Indigestion in Children

Dr. W. G. Murphy, East Hartford: Diacetic acid is one of the highest chemical compounds associated with acetone, and is the result of intestinal decomposition of food. Various theories have been suggested associating diacetic acid with cyclic vomiting and recurrent attacks of indigestion. The exciting causes of the attacks of vomiting are fright, excitement, fatigue, anger, exposure to cold, and similar influences acting through the nervous system. Many argue, also, that the attacks are not due to errors in diet. Acetone may be present in other conditions; and the neurotic and rheumatic aspects must be recognized as contributing causes. The condition is, I believe, a neurosis, toxic in character, based on a defective nervous control, the result of an inherited unstable and irritated nervous system. If this idea is correct, treatment should be directed to the cause, and not to the result. Most of the children are neurotic and anemic. On account of their digestive troubles, they are often underfed. A full and generous diet should be given them, and general care of the hygienic conditions. On the appearance of symptoms of an attack, stop food and thoroughly clean out the digestive tract with castor oil, and give repeated doses of sodium bicarbonate.

DISCUSSION

Dr. F. P. Underhill, New Haven: There is little doubt that the symptoms described by Dr. Murphy are dependent on defective nervous control. It is well-known that a child is much more easily put into a condition of defective nervous regulation than is an adult. Excessive putrefaction in the intestine may serve as a stimulus in these neurotic and under-nourished subjects. I do not think that the presence of diacetic acid in the urine in these cases should be over-emphasized. Acetone bodies probably arise within the body as the result of the incomplete combustion of fats. I believe that diacetic acid is neither the cause nor the direct result of the pathologic condition under discussion; indeed, I should ascribe the presence of this substance in the urine to the condition that accompanies the abnormal manifestation, *viz.*: the undernutrition, in which it may be easily demonstrated that diacetic acid is always present. Young children are thrown into a condition of acidosis with extreme ease; and a moderate degree of acidosis, especially in children, should not be regarded as a grave symptom.

Dr. C. A. Goodrich, Hartford: We should also bear in mind certain intestinal disorders in children in which there is, besides cyclic vomiting and convulsions, a certain nervous phenomenon resembling the beginning of diabetic coma in adults. These cases should be included in considering this matter. Inasmuch as in a good many cases the diet apparently does not influence the attacks, these children become increasingly subject to malnutrition. The suggestion of such a simple clinical test as a considerable aid in certain of these intestinal disturbances, and also the point of considering the patients' well-being between these attacks, are of great value.

The Relative Value of Symptoms, Physical Signs, Tuberculin and the X-Ray in Diagnosis of Tuberculosis

Dr. H. F. Stoll, Hartford: In tuberculin we have a diagnostic aid of accepted value, if used in conjunction with the symptoms and physical signs. The x-ray is of a great deal of assistance in the diagnosis of pulmonary conditions. The negative must not only be perfect, but the interpretation thereof is of value only when made by one who has had a large experience in this particular field; as it is the most difficult of all x-ray work. Incipient cases that have been carefully examined come to post-mortem but rarely; and much more can be learned by a comparison of the physical signs and the x-ray findings in a series of early cases than by the autopsies of advanced cases. There is no better way to ascertain one's diagnostic ability or limitations than to compare the physical signs in one's cases with the x-ray plate. In deep-seated lesions, especially of the lower two-thirds of the lung, the x-ray will sometimes demonstrate a lesion that does not give physical signs. When the involvement is slight, it may be necessary to make several plates before a diagnosis can be given. If we are to detect incipient tuberculosis, we must inspect, palpate, percuss, and auscultate our patients. We must also question them at length. An incomplete examination gives the patient an unwarranted sense of security.

DISCUSSION

Dr. W. B. Bartlett, Hartford: There is a great difference between clinical tuberculosis and anatomical tuberculosis. The relative value of symptoms, physical signs, tuberculin, and the x-ray is very different in the two forms of the disease. It is, however, with the diagnosis of clinical tuberculosis that we are concerned. Physical signs, tuberculin, and the x-ray, if without symptoms, may all three be disregarded; with symptoms, the diagnosis of tuberculosis may be made, even though signs, the x-ray, and the tuberculin test are negative. When obtainable, the history of exposure to infection from some tuberculous relative or friend is important. It is surprising, however, how seldom such a history can be obtained. The importance of malaria in the past history should be emphasized. Among symptoms, pain is very important. I should like to add to Dr. Stoll's statement that râles at the apex may be due to other causes, the statement that râles at the base most frequently are due to other causes. A positive tuberculin reaction does not mean clinical tuberculosis. Notwithstanding the many new and simple tests with tuberculin that have been introduced, we are gradually coming back to a dependence on the subcutaneous method as the most reliable; and even this may occasionally be at fault.

Dr. D. R. Lyman, Wallingford: Dr. Stoll's comparison of the relative value of these four means of diagnosis shows that not one of them is of such supreme value that we can afford to leave everything else out of consideration. About the only thing that he did not mention was the constant occurrence of little localized dry pleurisies in the chest in these cases. Tuberculin is one of the most powerful poisons that we have. I have never seen ill effects from its subcutaneous use in small doses. I do not, however, think it necessary to employ it if the diagnosis can be made without it and the patient is willing to accept one's opinion and act on it. I have never felt like using the eye test, when I could use the subcutaneous test, which is free from danger. I do not think that there is any question that an expert can discover with the x-ray deep-seated lesions that an ordinary person would miss.

Dr. F. S. Crossfield, Hartford: On behalf of the laryngologist, I would say that in the early stages of pulmonary tuberculosis there are no absolutely pathognomonic symptoms in the larynx.

Dr. J. B. Griggs, Hartford: While the positive tuberculin test is not valuable, the negative test is. The negative test is particularly valuable in adults, while the positive test is of value in children.

Dr. Stoll: As I said in my paper, if the tuberculin test is negative, the possibility of the presence of tuberculosis is very slight; but it does not exclude the disease. Long before the stethoscope was invented, and purely and solely by means of the symptoms, physicians diagnosed tuberculosis. After a careful history has been obtained, it is unusual to have the physical signs not agree with the diagnosis made from the history and the symptoms.

AMERICAN PROCTOLOGIC SOCIETY

Twelfth Annual Meeting, held at St. Louis, June 6-7, 1910

The President, Dr. Dwight H. Murray, Syracuse, N. Y.,
in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. George J. Cook, Indianapolis; vice-president, Dr. Jerome M. Lynch, New York City; secretary-treasurer, Dr. Lewis H. Adler, Jr., Philadelphia; executive council, Drs. Dwight H. Murray, Syracuse, N. Y., *chairman*; George J. Cook, Indianapolis; Louis J. Hirschman, Detroit, Mich.; Lewis H. Adler, Jr., Philadelphia.

The meeting in 1911 will be held at Los Angeles, Cal.

Undergraduate Proctology

Dr. Dwight H. Murray, Syracuse, N. Y.: One of the most important duties of this society is an educational one. With the increasing appreciation and demand for this kind of special work, the colleges should take up the subject in a manner in which its importance demands. Proctologic teaching in colleges should be done by men learned in the specialty and not by general surgeons. The time given to the specialties should be shared in a proper way with proctology, which would not detract from the importance of the older specialty but would recognize the importance of proctology. At the same time this would put the young graduate in possession of knowledge that would not only be of great value to him but of far greater value to his patients. There are certain common and important diseases in every specialty that the young physician is sure to meet and ought to be able to recognize.

Malformations of the Anus and Rectum

Dr. Alois B. Graham, Indianapolis: Congenital malformations demand prompt surgical treatment. Many cases are never reported and the percentage is evidently much larger than statistics indicate. These malformations are sufficiently uncommon and interesting to warrant placing every case on record. I wish to report four cases. 1. No trace of anus or rectum. Colostomy suggested but refused. Child died four days later. Autopsy refused. 2. Complete obstruction of the anus by a membranous diaphragm, which was perforated by the attending physician. Examination revealed a dense stricture, almost impermeable, involving the entire anal canal. The interesting point was the presence of a hypospadias through which feces had escaped for two years. The communication between the rectum and urethra was the result of ulcerations above the stricture rather than defective embryologic development. Surgical treatment was refused. 3. A well-formed anus and a protruding or bulging imperforate rectum. Posteriorly, the rectum had no attachments, and the finger could be introduced easily behind the bulging imperforate gut, through the anal canal, into a blind pouch. A fistulous opening was found in the vagina just behind the hymen. The meconium and a small quantity of feces had escaped through this opening. The protruding rectal musoca was dissected from its attachments and excised. The rectal mucosa was then sutured to the free skin at the anal margin, except for one-eighth of an inch posteriorly. This was used for drainage in case the blind pouch became infected. This patient made a good recovery. 4. Imperforate urethra and no trace of anus. Penis and scrotum were well developed, but neither testicle could be palpated. Careful dissection and exploration failed to find any trace of a rectum. At autopsy no bladder was found. While the local examination revealed a male child, with the exception of being able to palpate the testicles, the examination of the specimen removed at autopsy reveals marked evidence of the female generative organs. This child was a transverse hermaphrodite—namely, one in whom the external genitals seem to be of one sex and the internal of the other. Report of examination of specimen states that the pouch-like termination of the intestine is formed of three organs, namely, the bladder, uterus and rectum.

Atony of the Rectum

Dr. William M. Beach, Pittsburg, Pa.: Factors contributing to atony are (a) traumatism to the perineal body; (b) disease in the anal canal; (c) enteroptosis secondary to general systemic conditions or local anatomic anomalies; (d) the abuse of injections and drastic catharsis; (e) disease in adjacent organs, as prolapsed uterus, adhesions, neoplasms, appendicitis, prostatitis, circulatory disturbance as engorged portal vessels and primary gastric diseases; (f) atony may be the sequel to lues or senility. The treatment is that of constipation, being guided by the cause. Alterative, dietetic and mechanical agencies are to be invoked.

Villous Tumor of the Rectum

Dr. T. Chittenden Hill, Boston: The chief point of interest about these tumors is that a certain percentage of them show a marked tendency to undergo malignant degeneration. I believe that if there is a distinct pedicle without infiltration of the adjacent mucous membrane, tumors of this type are generally benign and if completely removed by ligation, or otherwise, there is but little likelihood of their recurring. On the other hand, if the base is broad, whether there be induration or not, a total extirpation of the rectum should be advised.

Another point of some interest borne out by a study of reported cases is that the longer the condition has existed the less likely is it that the growth will prove malignant. In a case operated on by me over three years have elapsed since the operation and as yet there is no sign of recurrence.

Significance of Rectal Hemorrhage

Dr. Louis J. Krouse, Cincinnati: Rectal hemorrhage must not be considered conclusive of the existence of piles. Many other diseases besides piles are accompanied with bleeding. Every patient is entitled to a thorough examination, and physicians are in duty bound to use all the means at their command to accomplish it. Earlier recognition of malignancy would add materially to the future welfare of the patient which can be obtained by surgical measures, and it therefore behooves the general practitioner to be on his guard and examine carefully every case of bleeding so as to detect malignancy in its incipient stage.

Ano-Rectal Affections of Infancy and Childhood

Dr. A. J. Zobel, San Francisco: From the first hour after birth the ano-rectal region is of vast importance. At that time malformations may be determined and proper relief promptly afforded. Some of these abnormalities pass unnoticed throughout a long life but others are the source of great discomfort and distress. While hemorrhoids are common in adults the possibility of their presence in the young is rarely considered. Malignant growths of the rectum while rare are occasionally met with. Benign growths are more common. Adenoma is the most frequent of these. They are often diagnosed as internal hemorrhoids, and like them, may become strangulated. Fissure of the anus is present more often than it is usually diagnosed. Pruritus ani is a very frequent source of great discomfort and torment to the little ones. It is very rarely suspected or diagnosed and it accounts for much of that peevishness in these little ones for which no cause can usually be assigned. I have found superficial lesions of the anal mucous membrane in these cases, and the symptoms disappeared when local treatment was instituted. Fistulo-in-ano is met with occasionally in children and even in nurslings. While it may be tuberculous it may also be of a congenital nature. Ischio-rectal abscesses are met with even in early infancy. When incised they rarely end in fistulæ. Prolapse of the mucous membrane of the anus and rectum is a common condition during the second and third years of life.

The Tuberculin Reaction in Cases of Perirectal Infection

Dr. Collier F. Martin, Philadelphia: I was so impressed with the frequent coincidence of pulmonary tuberculosis and perirectal infections that I began a series of tests and examinations to determine their relation. I used the Moro tuberculin reaction, combined with physical and bacteriologic examination. In 36 cases I got the following results: Group 1. Rectal pyogenic infections, including here fistulæ, abscesses, and deep rectal ulcerations. There were 20 positive reactions out of 21 cases. The negative case was one profoundly tuberculous. Group 2. Non-pyogenic rectal cases. There were 11 cases, including hemorrhoids, fissure, and catarrhal proctitis, with three positive tuberculin reactions. This he holds, is probably the ratio of tuberculosis in this class of cases. One negative case in this group was intensely tubercular, with extensive lung lesions evident, and with abundant tubercle bacilli in the sputum.

A Unique Case of Laceration of the Sphincter Ani

Dr. A. B. Cooke, Nashville, Tenn.: Feb. 26, 1910, a boy, seven years old, gave the following history: About noon on the day named the boy, who lived on a farm, went out behind the corn-crib to attend to a call of Nature. While engaged in the act, a pet dog, a hound of middle size, came up from the rear and mounting him affected entrance into the anus and became accoupled. The boy's outcries quickly brought his mother on the scene. The dog had reversed his position and was in the same relation to the boy as is ordinarily assumed in the natural act with a bitch. The mother's excitement was naturally marked and in her frantic efforts to disentangle the two she used considerable violence and finally succeeded in separating the dog. Traction on the anus showed that several internal lacerations of considerable extent were present. Under general anesthesia the deepest of these was found to be in the middle line posteriorly, extending from a point two inches up the rectum through the sphincter muscles, and out on the skin surface for a distance of approximately one inch. The external sphincter was torn in two places at this site, one tear being complete, and the other partial. Anteriorly there was a second laceration, into but not through the fibers of the sphincter. In addition there was a number of minor tears in the anal margin involving the superficial tissue only. Fourteen interrupted cat-gut sutures were used in repairing the posterior laceration, and four in the anterior one. The others did not require suturing. The result was entirely satisfactory. Union was prompt and complete and the patient returned home in two weeks with perfect sphincter control.

Incontinence Following Rectal Operations

Dr. George B. Evans, Dayton, Ohio: Evidently the only true sphincter ani is the external—the internal sphincter ani is not subject to volition—and its sphincteric influence must be largely due to the support afforded it by the practically amalgamated muscles which form the floor of the pelvis and whose main function is the support of the hollow viscera of the pelvic cavity. Would it, therefore, be illogical, to believe that the internal sphincter is not, neither can it be made by any surgical procedure an efficient voluntary constrictor? Certainly, it is true that efficient and satisfactory sphincteric function is dependent on normal support of the bowel by a normal muscular floor, with a normal interdependent power of sphincter muscles, hence any trauma which interferes with muscular function disables proportionately to the extent of the injury. That incontinence does follow division of the external sphincter, that incontinence does follow division of the internal sphincter, is not denied and when their division becomes a necessity the best way, if there is one, of making the incision should be chosen. Considering the anatomic conformation of the perineum, the mutual dependence of perfect function, I would admonish those engaged in rectal surgery to not forget that indifferent and multiple injuries (even surgical injuries) should not be indulged in, for fear of a result that would prove more painful and unendurable than the condition which indicated operative interference. I believe that incontinence can be obviated by relieving the tension of the fibers of the levator ani muscle at their attachment to the external sphincter, or both the external and the internal sphincter by nicking the fibers of said muscles on either side of the fistulous tract, and thus permitting an incision of the muscle at right angles to the same.

Ulceration of the Rectum in Pregnant Women and the Part It Plays As a Factor in Abortions

Dr. Leon Straus, St. Louis: I have operated twenty-four times for the result of irritable ulcer of the rectum in pregnant women. Not all of these operations were made to prevent abortion. In fact only fourteen had had one or more abortions. That leaves ten for which the operation was made to relieve the distressing pain from which these patients suffer.

Case of Post-Operative Delirium

Dr. Samuel T. Earle, Baltimore: The minor character of the operation preceding the attack in the present case makes it more interesting, which is doubtless accounted for by the age of the patient. A. T., aged 78, had suffered with hemorrhoids since before the Civil War, but had persistently determined not to be operated on. Early in May, 1910, they became thrombosed and inflamed, at which time he consented to an operation. The usual hypodermic of 1/6 of a grain of morphin, atropine 1/120, and strychnin sulphate 1/30, was administered prior to the anesthetic. Fearing the effect of ether or chloroform, on account of his age, it was decided to administer a mixture of nitrous oxid gas and oxygen. This mixture did not keep him thoroughly anesthetized, consequently the operation was not completed as quickly as usual and as a result there was more blood lost, which did not exceed two or three ounces. The operation was completed, he regained consciousness in a few minutes but almost immediately became very excited and delirious. Thinking this might be due to pain, 1/4 of a grain of morphin was given at the end of two hours from the time he received the first hypodermic; a third dose was given three hours following the second dose. The patient continued very delirious during the night and for three days following. The second and third nights we were able to quiet him for a few hours by hyocin hydrobromid, grain 1/50, and morphin, grain 1/6, administered hypodermically. For the remainder of the first week, the hyocin hydrobromid, grain 1/50, was sufficient to give him a quiet night, but the delirium continued for one week from the time of the operation, but not nearly so active as during the first few days and with some lucid intervals. His temperature did not exceed 99.5 F. the first three days but on the fourth day it reached 100.5 and again on the seventh day, for a short time without any apparent cause, otherwise the patient made an excellent recovery, and was able to be about the house in about ten days after the operation.

Appendicostomy: A Consideration of the Preservation of the Blood-Supply of the Appendix in the Technic of the Operation

Dr. Frank C. Yeomans, New York City: The method here advocated and in practice found successful preserves the arteries intact and consequently the vitality of the entire appendix. It is accomplished by separating the two layers of the mesentery at its juncture with the posterior mural peritoneum, beginning at its free border, and carefully displacing the cellular tissue with its contained appendicular artery and branches, as far as necessary toward the appendix. The two layers of peritoneum are then divided transversely to the base of the appendix, turned in and sewed, to obliterate the raw space on the posterior abdominal wall. Experience teaches that it is unnecessary to test the patency of the appendix, until the wound has healed, i. e., in 4 or 5 days. Further precautions are not to obliterate any arteries by forceps, ligatures, sutures, torsion or tension in fixing the appendix in a position where it does not rest naturally, or by closing the wound too snugly about it.

By following this technic, the operation is without mortality and post-operative leakage of feces and hernia—the two troublesome sequelæ of appendicostomy, are avoided. Appendicostomy should continue to grow in favor over cecostomy in all cases where prolonged irrigation of the colon is indicated.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal

July 16

1 *Throat Symptoms in General Diseases. H. L. Swain, New Haven, Conn.
2 Surgical Aspects of Gastric Ulcer. P. Syms, New York.
3 *Torsion of the Eyeball. D. K. Shute, Washington, D. C.
4 Molluscum Fibrosum, Addison's Disease, and Pulmonary Tuberculosis. I. N. Kahn, New York.
5 Anesthesia of the External Auditory Canal and of the Membrana Tympani with Ethyl Chlorid Spray. C. J. Kœnig, Paris, France.
6 Tuberculosis of the Larynx. H. Parrish, Philadelphia.
7 The Value of Test Meals. J. R. Verbrycke, Washington, D. C.
8 Twelve "Don'ts" in the Diagnosis and Treatment of Appendicitis. M. Chideckel, Baltimore, Md.

1. Throat Symptoms in General Diseases.—In this paper Swain limits himself almost entirely to the discussion of the throat symptoms of syphilis. Speaking of the treatment, he says that if it is sure the lesion is syphilitic, the bichlorid solutions may be used; 1 to 200 or 1 to 250, being caustic to mucous membranes, can be applied and will cause the ulcer to heal up with rapidity, especially if one is giving the proper treatment internally. By chance he once applied a 10 per cent. zinc chlorid solution to a Vincent's ulceration and it healed up so promptly that he has used it ever since, to the exclusion of other remedies. He generally cleans the ulceration out with full strength peroxid and then applies the 10 per cent. solution of zinc chlorid very thoroughly to every accessible spot. The patient, of course, is made to gargle weak peroxid solutions, following it with one or another form of alkaline gargle. Nothing seems so good for canker sores as pure stick of silver nitrate. For shrinking up the gums or the relaxed mucous membranes which follow the healing of ulcerations, old-fashioned tincture of myrrh still holds a strong place in Swain's affections. Glycerite of tannin helps many a stomatitis in its final healing. For a bland application to irritated areas not ulcerated a solution of boroglycerid deserves confidence. Concerning the care of gross syphilitic defects as they appear in the hard and soft palate, it must, of course, be a cardinal rule to get the greatest possible effect from the antisyphilitic medication in the shortest time possible, so as to limit defects. In the case of bone death, let the dead be separated from the living by natural processes, for surgery generally botches the job and rarely hurries the final healing. Caustics rarely do good and often do harm to tertiary lesions. In the case of the pharynx and palate too great care cannot be used to prevent the inevitable contraction of scar tissue with obliteration more or less complete of the opening down into the nasopharynx and below into the esophagus.

3. Torsion of the Eyeball.—Shute says that three very distinct and separate portions of the cornea are to be noted, viz.: (1) The apex of the cornea; (2) the horizontal meridian of the cornea and its outer or temporal extremity; and (3) the vertical meridian of the cornea and its upper extremity as observed in the primary position of the eyes. The position of the apex of the cornea at the end of a version of the eye is ascertained in reference to rotations around two fixed lines in Listing's plane—a vertical and horizontal axis. Rotations about the vertical and transverse axes in this plane can be compounded into rotations about any intermediate axis. The *amount and character* of the deviation of the apex of the cornea are noted in reference to the point of intersection of the fixed vertical and horizontal lines in Listing's plane; in other words, in reference to the location of the apex of the cornea in the primary position of the eye.

The amount and character of the virtual torsion of the eye are ascertained by noting the tilt, one way or the other, of the upper end of the vertical plane through the whole length of the line of fixation, and by regarding the eye along the line of fixation and not by regarding the eye along a fixed anteroposterior axis perpendicular to Listing's plane. Further, we must rigidly distinguish between actual rotations or versions around axes in Listing's plane, and virtual rotations or torsions around the line of fixation of the eye.

Boston Medical and Surgical Journal

July 14

9 *The Occurrence of Infantile Paralysis in Massachusetts in 1909. R. W. Lovett, Boston.
10 Billous Attacks in Children. P. S. Potter, North Adams, Mass.
11 Etiology of Common Colds. A. Coolidge, Boston.

9. Infantile Paralysis in Massachusetts.—This is a most exhaustive study of infantile paralysis and for full details the original article by Lovett should be consulted. There are 354 cities and towns in Massachusetts, in 136 of which there occurred cases of infantile paralysis in 1909. The incidence ran from 526 per 100,000 inhabitants to 15 in 100,000. In 1909 the disease was relatively much more prevalent in small towns than in the cities and larger towns.

The last six years have been very dry. In 1907 there was practically a normal rainfall, and 234 cases in the state. In 1908, a very dry year with 7 inches deficiency of rainfall, there were few cases—136. In 1909, with more rain (3 inches deficiency) there were 923 cases. In Massachusetts the prevalence of the disease by the year has not, therefore, been coincident with deficiency of rainfall.

The 150 cases of paralysis carefully studied occurred in 142 families. The total number of children under 15 in these 142 families was 479. The total number of children sick from any cause in these families contemporaneously with the occurrence of paralysis was 187, and 12 adults. Of the 187 sick children, 149 were paralyzed; of the 12 adults, 1 was paralayzed. This leaves 49 cases of contemporaneous illness not followed by paralysis which are to be reckoned as possible abortive cases of the disease. Analyzing the age of infected houses, it is evident that most of the 150 cases occurred in old houses. Yet the majority of houses in a city are old. But in Dorchester, where many cases were investigated, building is active and many of the houses are new. It seemed as if the average age of infected houses was probably higher than that of the houses of those districts taken as a whole. The disease in many respects suggests that it is insect-borne. Among 142 families, 134 had vermin, etc. The occurrence of paralysis among domestic animals and fowls has been found to coincide with outbreaks of the disease in the human beings in some instances reported. In 34 out of 87 families having domestic animals, sickness, paralysis, or death occurred in these animals about the time of the paralysis in human beings.

The relation of the disease to rabies was investigated and in three of the towns carefully studied epidemics had occurred in the past, but no outbreak of rabies in 1909 had any relation to these 150 cases of paralysis, and no one of the 150 paralyzed children had in the past received the Pasteur treatment. With regard to evidence of communicability, instances of direct contagion from child to child occurred with an incubation period of 1 to 14 days. In 11 instances in the 150 cases the disease followed intimate contact with persons with old infantile paralysis, often of many years' standing. Instances of what would appear to have been contagion occurred in 35 out of 150 cases. Forty-five institutions were investigated where 3,600 young children lived. Only one child of the 3,600 developed the disease and this was under remarkable conditions. Out of 150 patients, 62 were swimming or wading just before onset. No child living on breast milk alone of the 150 carefully studied, was affected by the disease. Possible favoring conditions preceding or attending infection were, insect bites or stings, 35; wounds, 13; sore throat, 42; diarrhea, 35; otitis media, 2; coryza, 4; measles, 1; pin worm, 1; bronchitis, 1. Ninety-three had one or more of the above possible sources of infection; and 57 had no such history. Three hundred and sixty-three males and 263 females were affected. Only 7 per cent. of the cases occurred in the first year of life, but 71 per cent. occurred in the first 5 years and 87 per cent. in the first ten years.

In 147 cases the early symptoms were fever, 132; pain, 110; *tenderness*, 108; vomiting, 67; constipation, 72; retraction of head, 60; diarrhea, 38; headache, 33; delirium, 15; anorexia, 15; *irritability*, 24; stupor and restlessness, 14; malaria, 9; nausea, 18; convulsions, 4; twitchings, 3; cough, 8; dyspnea, 4; sore throat, 8; numbness, 3; chills, 2; weakness, 1; coma, 2; abdominal distention, 7; pain in abdomen, 1; jaundice, 1; vertigo, 2; double vision, 2; difficulty or inability to swallow, 4; difficulty in articulation, 2; gastro-intestinal upset, 2; diaphragmatic breathing, 1; coryza, 1.

Six patients had skin eruptions; 1, measles and mumps; 1, whooping cough; 1, malaria.

Distribution of paralysis was as follows: One leg only, 192; both legs only, 151; one arm only, 32; both arms only, 11; one arm and leg, same side, 57; one arm and leg, opposite sides, 17; both legs and one arm, 38; both arms and one leg, 6; both arms and both legs, 82; not stated, 12; back, 83; abdomen, 37; face, 8; right face, 16; left face, 10.

What appears to be recovery in the eyes of the family physician occurs more frequently than is generally supposed, 10 per cent. of such cases being reported. This led to a closer investigation of the recoveries in 150 cases. Twenty-five of these had wholly recovered. The character of the onset was mild in 6, moderate in 17 and severe in 2. *Pain and tenderness* in the acute attack existed in 19 out of 25 recovered cases.

The statement may therefore be made that in the whole group of 628 cases, 10.8 per cent. of the patients were reported as wholly recovered; that in the smaller group of 150 cases, 16.7 per cent. of the patients are known to have recovered, and that a study of character of onset, distribution and tenderness in these cases gives no means of distinguishing them from other cases at the time of the attack.

Medical Record, New York

July 16

12 The Psychoneuroses: An Interpretation. J. Collins, New York.
13 *Duodenal Alimentation. M. Einhorn, New York.
14 Diagnosis of Suppurative Diseases of the Nasal Accessory Sinuses. A. Braun, New York.
15 Drainage and Dressing of Wounds in Minor Surgery. A. E. Isaacs, New York.
16 *Fistula in Ano: Excision and Suture. E. C. Beck, New York.
17 A Pith-ball Manometer. N. Fedde, New York.

13. **Duodenal Alimentation.**—Einhorn cites three examples of successful feeding of patients who were unable to take nourishment on account of vomiting, by means of the duodenal tube and pump. Milk and eggs were the main food materials forced through the very small tube. None of the three patients fed by him lost appreciable weight, they felt well, and the feeling of hunger was satisfied, while without food they felt tired and weak.

16. **Fistula in Ano.**—To the usual splitting open of the fistula Beck adds the dissection of the scar tissue that has formed along the track of the fistula, and which prevents healing. The wound is then carefully sutured in its entirety, and the bowels kept from moving for four days.

Lancet-Clinic, Cincinnati

July 9

18 The Use of Quinin and Urea Hydrochlorid as a Local Anesthetic in Ano-rectal Surgery. L. J. Hirschmann, Detroit.
19 The Indications for and Usefulness of Some Diagnostic Methods for Diseases of the Digestive System. J. H. Schroeder, Cincinnati.
20 Goiter. W. D. Hamilton, Columbus, Ohio.

Pennsylvania Medical Journal, Athens

June

21 *History of the Progress Made in the Control of Communicable Diseases. A. B. Moulton, Camp Hill.
22 *The Rôle of Microzoa in the Causation and Transmission of Disease. J. McFarland, Philadelphia.
23 *Some Etiologic Factors in Scarlet Fever. J. F. Schamberg, Philadelphia.
24 Preventive Measures When Disease is Due to Drinking Water. M. V. Ball, Warren.
25 *Preventive Measures When the Disease is Transmitted by Food Supplies. M. B. Ahlborn, Wilkes-Barre.
26 *Preventive Measures Against Infectious Diseases. A. J. Smith, Philadelphia.
27 *What Shall we do About Trachoma? C. P. Franklin, Philadelphia.
28 *Isolation and Quarantine in Management of Communicable Diseases. W. M. Welch, Philadelphia.
29 Disinfection. J. J. Quiney, Easton.
30 Vocal Gymnastics: The Field of Their Usefulness. W. B. Weidler, New York.
31 Brain Abscess: Operation. B. M. Dickinson and T. Diller, Pittsburg.
32 The Principles of Anesthesia. E. B. Smith, Philadelphia.

21. Abstracted in The Journal, Oct. 16, 1909, p. 1323.

22, 23, 25, 26, 27, 28. Abstracted in The Journal, Oct. 23, 1909, pp. 1423, 1424.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

July

33 *Uterine and Vesical Prolapse. C. Jewett, Brooklyn.
34 *Uterine and Bladder Prolapse. J. M. Baldy, Philadelphia.
35 *Genital Prolapse: Its Operative Correction Based on a New Study of Cleavage Lines and Sliding Segments. R. L. Dickinson, Brooklyn.
36 Intramural Sequestration and Fixation of the Corpus and Fundus Uteri for the Cure of Procidentia Uteri Existing in Women with Whom Further Pregnancy is not Possible. P. A. Harris, Paterson, N. J.
37 Contributions to Medical and Surgical Literature by George Granville Bantock, M.D., Formerly Surgeon to the Samaritan Free Hospital, London, England. I. S. Stone, Washington, D. C.
38 Varicocele in the Female. O. Hofmann, Kansas City, Mo.
39 *Heart Diseases in Pregnancy and the Puerperium. J. F. Moran, Washington, D. C.
40 Friedreich's Ataxia. E. L. Hunt, New York.
41 The Exceptionally Bright Child. M. P. E. Groszmann, Plainfield, N. J.
42 Differences Between Anatomic, Physiologic, Psychologic and Chronologic Age as Causes of Derailment. C. W. Crampton, New York.
43 Ethnic Factors in Education. M. Fishberg, New York.
44 Congenital Hypertrophic Pyloric Stenosis. G. L. Kaufmann, Chicago.
45 Treatment of Cervical Tuberculous Adenitis at the Sea Breeze Hospital. L. W. Ely, New York.

33. **Uterine and Vesical Prolapse.**—Jewett holds that practically all operable cases may be grouped in three principal classes: 1, uncomplicated uterine or vesical prolapse; 2, extreme prolapse of uterus and bladder; 3, cases between these extremes. Simple cystocele may be treated by any procedure which contemplates a firm reattachment of the lower end of the anterior vaginal wall to the fibrous structures at the posterior face of the pubic bones on either side of the urethra, supplemented by a close perineoplasty and a resection, if needed, of the redundant fascia. These principles are embodied in the Hirst operation. Satisfactory perineal support is assured only by one of the various procedures which overcome the diastasis of the levators, essentially the pubo-coccygei, good examples of which are Goffe's, Barrett's and the Holden operation. Beginning descensus of the uterus may be corrected by a close and high colpoperineorrhaphy, together with one of the round ligament operations. In more marked descensus, amputation of the cervix should be added. Shortening the uterosacral ligaments, though sound in theory, is difficult work and the results are not in all cases wholly satisfactory. The operation of White may serve in moderate visceral prolapse.

An operation formerly practiced by Watkins is not wholly unlike that of White. In extensive prolapse of the uterus and bladder, hysterectomy, when practicable, offers the best results. The broad ligament stumps are securely sutured to denuded surfaces at the lateral angles at the upper end of the vagina or they are shortened, sutured firmly together, and the bladder and vaginal walls fixed to the transverse beam thus formed. In either procedure effective suspension of the vagina may be further assured by utilizing the round and the uterosacral ligaments as well. A thorough perineoplasty also is, of course, essential. With this technic his results have invariably been good.

Cases intermediate between the foregoing extremes Jewett has treated by the interposition operation. In this procedure the uterus for most of its length becomes a constituent part of the pelvic floor. The cervix is lifted toward the sacral hollow by torsion of the broad ligaments, the slack in the anterior vaginal wall is taken up in part or fully by backward traction, the lower or anterior end of the wall is drawn up by the upward pull of the fundus, and the prolapsed portion of the bladder is displaced upward over the fundus of the uterus. These ends, in Jewett's experience, have been fully attained only when the vaginal wall has been sutured to the uterus nearly or quite to the level of the round ligaments. With the technic at its best, the immediate mechanical result leaves little to be desired. The mechanics of Goffe's very definite technic amounts in effect to a vesicovaginal interposition of the uterus. Goffe's operation must be credited with the advantage that it brings about a more nearly normal relation of the pelvic viscera and a safer condition of affairs in the event of subsequent pregnancy. With the Alexandroff-Dudley operation, though ideal in principle, and with that of Reynold's, Jewett has had no very satisfactory experience; with the Freund-Fritsch technic, with Polk's recent proposal, and with cystohysteropexy, espoused by Dickinson, none at all.

34. **Uterine and Bladder Prolapse.**—Baldy emphasizes that no one procedure, or series of procedures, will answer in all cases. The injuries are multiple and the relaxations and stretching of tissues varied, and the successful operator will be he who, having first appreciated all the underlying causes and difficulties, will not try to return the parts to their original minute anatomic positions, but will do away with hair-splitting and adapt himself to the conditions as they face him in each case and will work for a result no matter what the technical criticism of the steps may be. Nature is a great adaptor, and if we will get the organs in their relatively proper positions and hold them there, it matters little whether there are a few folds more or less in the bladder, whether the bladder is a bit encroached on, whether certain ligaments are put

out of business, whether there be a true fascia in the vaginal vault or not. Nature will soon get used to the changed condition, and all rough edges which have not been too nicely trimmed up (with consequent unnecessary prolongation of operation), all irritability of the bladder, all faulty ligaments will be found subsequently to be a thing of the past and the patient enjoying good health and comfort.

35. **Genital Prolapse.**—From the point of view either of pathologic anatomy or surgery the frozen sections showed Dickinson the importance of recognizing certain cleavage planes in the pelvic diaphragm, and intervening segments that slide. The cleavage runs 1, postpubic close to the bones; 2, in the urethrovaginal septum; 3, in the rectovaginal septum: and 4, along the anorectal canal. If the urethral segment falls any considerable distance, only ventral fixation at the rear or top of the pubes will hold the upper urethra and anterior bladder-wall. The second segment (vagina bladder-base, cervix) is the common hernial mass. A convenient nomenclature would be intravaginal cystocele, protruding beyond the hymen on straining, and complete extrusion, bladder, cervix, uterus, one or all. For the worst cases, the writer employs ventral fixation of the bladder, whether vaginal hysterectomy is done or not. The retroanal segment, when very badly prolapsed, particularly in the presence of protrusion of the uterorectal pouch, may call for sigmoid fixation, and the wide-open, bony outlet of the pelvis may present no tissue out of which a diaphragm can be built, so that flaps from the buttocks may be required.

39. **Heart Diseases in Pregnancy.**—Moran believes that it is quite possible that varying degree of temporary dilatation of the heart take place in pregnancy similar to that which occurs after great exertion, so that the cardiac mechanism is capable of maintaining the circulatory equilibrium without undergoing appreciable hypertrophy or increasing markedly the blood-pressure.

Normal pregnancy does not predispose to the development of inflammatory or degenerative changes in the heart muscle or endometrium, nor is the pulse rate or tension markedly altered. Systolic heart murmurs heard at times in pregnant women are not due to organic lesions, but are identical with those observed in chlorotic and anemic patients, or produced by slight compression of the heart. Anomalies in pulse-rate, as arrhythmia or tachycardia, are as a rule only nervous manifestations. Moran recently delivered two women who had inorganic heart murmurs with disturbance of rhythm; both were of very nervous temperament and anemic. He has had seven cases of heart disease complicating pregnancy and the puerperium, 5 of which were seen in consultation. One had good compensation; another fair; in four it was bad, and in one there was acute dilatation of the heart in a case of typhoid complicating the puerperium. Two of the mothers died; all of the infants lived. The infrequency of heart disease during pregnancy, like toxemia and placenta prævia, emphasizes the importance of a thorough physical examination of the patient and constant supervision during pregnancy in order that the complications may be promptly detected and such measures undertaken in the interest of the mother and infant as the exigencies of the case may determine.

Texas State Journal of Medicine, Fort Worth

June

46 The Narcotic Drug Addictions, Etiologic Factors; Reasons for Past Failures; Principles Involved in Treatment. G. T. Pettey, Memphis.
47 The Old and the New State Association. W. B. Russ, San Antonio.

Annals of Surgery, Philadelphia

June

48 The Neuropathologic Cytology of Anemia, Infections, Graves' Disease and Surgical Shock. G. W. Crile, Cleveland, Ohio.
49 *Therapy by Bacterins and Tuberculins in Mixed Suppurative Bone and Joint Disease. DeF. Willard and B. A. Thomas, Philadelphia.
50 *Etiology of Cancer Based on Clinical Statistics. I. Levin, New York.
51 *Simulation of Neoplasms by Inflammatory Processes. C. A. Hamann, Cleveland.
52 *Prognosis and Operative Treatment of Fracture of Skull. J. Ransohoff, Cincinnati.
53 *Diagnosis and Surgical Treatment of Esophageal Diverticula. C. H. Mayo, Rochester, Minn.
54 *Resection of the Pancreas. J. M. T. Finney, Baltimore.
55 *Hepaticoduodenal Anastomosis. G. E. Brewer, New York.
56 Wandering Spleen. A. MacLaren, St. Paul.
57 Separation of the Colon from its Mesentery. F. E. Bunts, Cleveland, Ohio.
58 *Congestion of the Lower Lobe of the Right Lung an Early Symptom in Appendicitis. J. B. Roberts, Philadelphia.
59 *Removal of the Rectum for Cancer. W. J. Mayo, Rochester, Minn.
60 *Choriocarcinoma. A. Primrose, Toronto.
61 Momburg's Method of Artificial Anemia by Suprapelvic Constriction. A. G. Gerster, New York.
62 Old Irreducible Dislocations of the Shoulder Joint. A. F. Jonas, Omaha.
63 Operations on the Appendix. C. A. McWilliams, New York.

July

64 Operations on the Hypophysis. F. V. Eiselsberg, Vienna, Austria.
65 Tumor of the Hypophysis (with Infantilism). S. J. Mixter and A. Quackenboss, Boston.
66 *Intratracheal Insufflation (Meltzer): Its Value in Thoracic Surgery. C. A. Elsberg, New York.
67 *First Case of Thoracotomy in a Human Being Under Anesthesia by Intratracheal Insufflation. H. Lilienthal, New York
68 Thoracic Surgery on Human Beings. W. Meyer, New York.
69 Artificial Respiration and Intrathoracic Esophageal Surgery. N. W. Green and H. H. Janeway, New York.
70 *Cancer of the Esophagus and Cardia. H. H. Janeway and N. W. Green, New York.
71 Experimental Surgery of the Thoracic Aorta and Heart. A. Carrell, New York.
72 *Treatment of Wounds of the Heart. W. C. G. Kirchner, St. Louis.
73 *Abnormal Position of Duodenum. G. E. Armstrong, Montreal.
74 *End-to-End Intestinal Anastomosis by the Invagination Method. C. L Gibson, New York.

49, 50, 52, 54, 55, 58, 59, 60. Abstracted in THE JOURNAL, July 9, 1910, pp. 160, 161, 162 and 163.

51. **Simulation of Neoplasms by Inflammatory Process.**—The resemblance, clinically, between certain inflammatory processes and tumor is great, and, according to Hamann, often leads to errors in diagnosis. Chronic osteomyelitis and other forms of bone disease resulting in enlargement of bones, formative osteitis, as the result of various irritants; leading to the production of swellings which simulate neoplasms; myositis ossificans, circumscribed enlargements of muscles, myositis fibrosa: inflammatory thickening around foreign bodies in abdominal wall (ligature and foreign body tumors), inflammation of the omentum after ligation of portions of it; pseudoneoplasms of stomach; inflammatory pseudo-neoplasm of intestines; periappendicular swellings; diverticulitis, associated with the formation of connective tissue masses; tumors of the rectum and perirectal tissues of inflammatory origin are in many instances mistaken for tumors.

53, 68, 73, 74. Abstracted in THE JOURNAL, July 2, 1910, pp. 46, 47.

66. **Intratracheal Insufflation.**—The experiences Elsberg has had with intratracheal insufflation have demonstrated that the results obtained by Meltzer and Auer, by Carrel, and by himself, in animal experiments, can also be obtained in the human being, but a much larger experience is necessary before any definite statements can be made. There is every reason, however, for a thorough trial of the method. Meltzer's method of intratracheal insufflation recommends itself by its very great simplicity. If the future shows that it is as safe for the human being as it is for the animal—and Elsberg's experience seems to point in that direction—then surgery will have a very simple method for the prevention of the dangers from acute pneumothorax, a danger which has been the chief hindrance to the development of intrathoracic surgery.

67. **Anesthesia by Intratracheal Insufflation.**—The most remarkable feature of the anesthesia in this case was the total disappearance of the noisy rattling respiration which existed during the administration of the ether by the usual method. Lilienthal considers that this case was a most severe test of the Meltzer method of anesthesia, because of the foul and septic condition of the discharge from the pulmonary cavity. In spite of this there was no pneumonia, not even a bronchitis.

70. **Cancer of Esophagus and Cardia.**—This is a description of an operation for removal of such a cancer by the transthoracic route under conditions of differential pressure.

72. Abstracted in THE JOURNAL, Jan. 15, 1910, p. 232.

Journal Arkansas Medical Society, Little Rock

June

75 *The Progress of Medicine. J. H. Lenow, Little Rock.

75. Abstracted in The Journal, June 11, 1910, p. 1991.

Alabama Medical Journal, Birmingham

June

76 Educational Campaign Against Hookworm Disease. H. G. Perry, Greensboro.
77 *The Diagnosis of Obscure Cases of Appendicitis. M. Rogers, Birmingham.
78 *Chronic Gastro-mesenteric Ileus. A. L. Stavely, Washington, D. C.
79 *The Employment of the Police Power *for the Promotion* of Health. J. M. Foster, Montgomery, Ala.
80 Intubation in *Laryngeal Diphtheria* by the General Practitioner. A. M. Stovall, Jasper, Ala.

77, 78, 79. Abstracted in The Journal, May 28, 1910, pp. 1818, 1819.

American Journal of Surgery, New York

June

81 *A Modified Technic for the Combined *Operation of Extirpation* of the Rectum. J. P. Tuttle, New York.
82 The Treatment of Placenta Prævia, Based on the Study of Forty-two Cases. A. A. Hussey, Brooklyn.
83 *Tuberculosis of the Fallopian Tubes as an Etiologic Factor in Extrauterine Pregnancy. A. M. Taylor, San Francisco.
84 The Removal of the Tonsils. N. L. Wilson, Elizabeth, N. J.
85 The *Surgical* Significance of Nystagmus and Vertigo. P. Fridenberg, New York.
86 Perforation in Typhoid. F. E. DuBois, Plainfield, N. J.
87 Gastro-col [illegible] Carcinoma: Operation. W. H. Axtell, [illegible]

81. **Extirpation of the Rectum.**—Tuttle concurs in the universal opinion of surgeons that theoretically the combined operation is the operation of choice for the extirpation of the rectum in any condition requiring the removal of more than the lower four to five inches of this organ. Its hitherto high mortality, and the fact that many operators have made the artificial anus a necessary *accompaniment of this operation*, are the only arguments against it. As to its high mortality, this is steadily decreasing, until to-day it is less than that of the perineal operation 10 years ago.

83. **Extrauterine Pregnancy.**—Taylor's attention was first called to the importance of tubal tuberculosis as an etiologic factor by the circumstance of encountering three cases of extrauterine pregnancy within a month, each case being associated with advanced pulmonary tuberculosis. In three other cases of twin pregnancy one fetus in the tube and one in the uterus, the tubes were tuberculous. In another case *in* which there was a seven months' extrauterine *pregnancy*, the placenta extended *from* the upper inner third of the uterus through the ruptured right tube into the abdominal cavity and was attached to the peritoneum, omentum, bowel and liver; the uterus was enlarged to that of a four months' pregnancy. This patient was tuberculous. Altogether Taylor recalls that out of 64 cases of extrauterine pregnancy 42 were tuberculous, the pathologic condition having been confirmed in the laboratory. These clinical experiences, strengthened as they are by the inherent probability of tuberculous infiltrations being obstructive rather than destructive to normal fetal growths, force on him the conviction that in tuberculous salpingitis is found the most common cause of extrauterine pregnancy.

Illinois Medical Journal, Springfield

June

88 The Medical Profession—Present Conditions and Future Problems. J. L. Wiggins, East St. Louis, Ill.
89 Dilatation of the Stomach and Chronic Benign Ischochymia. M. Einhorn, New York.
90 Suprapubic Prostatectomy. A. D. Bevan, *Chicago.*
91 Diagnosis *of Prostatic Lesions.* L. E. Schmidt, Chicago.
92 Employers' Liability Insurance. W. H. Allport, Chicago.
93 The Lymphoid Masses—The Part They *Play* in Infections Gaining Entrance into the Body. F. E. *Auten, Belleville,* Ill.
94 Auto-Vaccines in Traumatic Infections. C. R. G. Forrester, Chicago.
95 Acute Diffuse General *Suppurative Peritonitis.* L. Feingold. Chicago.
96 Chronic Overwork. A. Hamilton, *Chicago.*
97 *The Responsibility of* the Medical *Profession.* H. B. Favill, Chicago.
98 Shall the General Practitioner Use the Roentgen Rays? M. Reichmann. Chicago.

Journal of the Tennessee State Medical Association, Nashville

June

99 Discovery, Distribution, and Consequences of Hookworm Disease. C. W. Stiles, Washington, D. C.
100 Symptomatology of Hookworm Disease. L. Leroy, Memphis
101 Pathology of Hookworm Disease. N. Evans, Nashville.
102 Hookworm Dissection with Special Reference to the Non-oviparous Female. W. Litterer, Nashville.
103 *The Clinical Significance of Silent Fluids in the Thoracic *Cavity.* F. A. Jones, Memphis.
104 *Symptoms and Effects of Adenoids. W. L. Simpson, Memphis.

103, 104. Abstracted in The Journal, April 30, pp. 1465, 1466.

Interstate Medical Journal, St. Louis

July

105 The Diagnosis of Mitral Stenosis. J. M. Patton, Chicago.
106 The Poisonous Scorpion, Including a Review of Some Recent Literature *and Personal Experiences.* H. V. Jackson, Durango, Mex.
107 *Etiology of Epidermidolysis Bullosa. M. F. Engman and W. H. Mook, St. Louis.
108 Hyperesthesia Rhinitis (Hay-Fever). O. J. Stein, Chicago.
109 *Diagnosis and Pathologic* Findings in an Unusual Case of Epithelioma of the Larynx. D. B. Delaven, New York.
110 Gonorrheal Vulvo-Vaginitis: Its Specific Treatment and Prophylaxis. W. J. Butler, Chicago.
111 *Differential Points in the Character *of* the Bone Lesion in the Tuberculous, and Acute Osteomyelitis, Rachitis and Syphilis. A. E. Horwitz, St. Louis.

107. **Epidermidolysis Bullosa.**—Having found the elastic tissue absent in 5 patients suffering from epidermidolysis bullosa, sections from all presenting practically the same histologic picture, Engmann and Mook feel justified in asserting this absence to be the etiologic factor of the disease.

111. **Bone Lesions.**—Horwitz found that in acute osteomyelitis the cortex is thickened and irregular, the periosteum is raised and new bone of lesser density is deposited underneath it. In congenital syphilis, new bone of increased density is *symmetrically deposited* on both sides of the shaft. In acquired syphilis, this *new* dense bone is irregular and "furred." Abscess in osteomyelitis is found in the medulla; in syphilis within the cortex, the medulla not being involved. In osteomyelitis, the joints are very rarely involved, the same condition existing in acquired syphilis. In congenital syphilis, on the contrary, joint involvement is the rule. Syphilis shows thickening on both sides of the cortex, rickets on the concavity of a bowed limb only, and with no increase in the diameter of the shaft. In syphilitic *spina ventosa a periostitis* with dense bone deposit is seen; in the tuberculous form the medulla and cortex are merged into one mass of soft bone. In all forms of syphilis the original outline of the bone is retained and clearly seen within the new formation; in rickets the shaft is distorted; in osteomyelitis there is a disturbance in all the layers of the shaft; in tuberculosis a merging of the cortex and medulla. Syphilitic epiphyseal enlargement is bilat*eral.* In rickets the epiphysis is enlarged, the end of the diaphysis is widened and cup-shaped for the reception of the epiphysis, and the bone is of diminished density. In tuberculosis the epiphysis is squared and a rarified area surrounds the focus, which is of indefinite outline; in osteomyelitis the focus, clearly outlined, is surrounded by a dense *eburnated* area.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

June

112 *Progress of Therapeutics. J. C. Wilson, Philadelphia.
113 **Treatment of Pneumonia.* A. McPhedran, *Toronto.*
114 *Malarial Infections in the Canal Zone and *Their Treatment.* F. M. Shook, Washington, D. C.
115 Pathology and Diagnosis of Psychoneurosis (*concluded*). B. Sidis, Portsmouth, N. *H.*

112, 113, 114. Abstracted in The Journal, May 28, 1910. pp. 1809, 1810.

Woman's Medical Journal

June

116 Chemical *Tendencies* of *Adolescence* in Girls. M. S. Macy, New York.
117 Epidemic of Acute Anterior Poliomyelitis in Wisconsin, Summer of 1908. J. Manning, Eau Claire, Wis.
118 Hookworm, Malaria, Yellow Fever, and Their Relation to the Health of American Citizens. J. Van R. Hoff, U. S. Army.
119 The Hypodermic Seawater Treatment of Disease. J. W. Car*penter, Cincinnati.*

Bulletin Johns Hopkins Hospital, Baltimore

July

120 *[illegible] Endothelioma, Multiple [illegible] Intestinal Tract and [illegible] Undergoing Malignant [illegible] R. Boggs, Baltimore.
121 [illegible] of Tropical Diseases. J. [illegible]
122 Anaphylaxis and its Relation to Clinical Medicine. J. F. Anderson, U. S. P. H. and M.-H. S.
123 *Unusual Case of Cerebral Tuberculosis Following Tuberculous Otitis Media. H. O. Reik, Baltimore.
124 *Etiology of Chronic Arthritis. H. W. Marshall, Boston.

120. **Hemangio-Endothelioma; Lymphangio-Endothelioma and Multiple Gastric Polypi.**—The case reported by Winternitz and Boggs presents may unique features and is of interest, not only as a remarkable example of multiple heterologous tumor formation, but also as a basis for some generalizations on the origin of tumors. Each of the three groups of tumors, present in this one case, is unique in the extent and character of its occurrence, and that all three should have occurred in one individual is remarkable. The patient was an old man, with a marked alcoholic history, extreme generalized sclerosis of arteries, veins and parenchymatous tissues. In the bloodvascular system was found an extreme grade of sclerosis affecting the aorta and larger arteries throughout the body, and a very marked phlebo-sclerosis, as well. In the subcutaneous tissue this sclerosis resulted in obliteration of much of the stream bed and a compensatory formation of new vessels. These new blood-vessels are formed by the proliferation of the endothelium, as in granulation tissue. But in many places the endothelium loses its power of organization with a resultant exuberance of endothelial growth into cavernous angiomata. By a still further loss of this organizing force, the vegetative function of the cell predominates and we have the formation of solid endothelial tumors. The solid tumors may in turn give rise to metastases.

In considering the proliferation of the lymphatic endothelium in the intestine, it is suggested that the extreme portal obstruction associated with the cirrhosis of the liver and the proliferative peritonitis and ascites may play a part somewhat analogous. It is further suggested that portal obstruction leads to overloading of the lymph channels and that, in the attempt to compensate for the extra load, proliferation and new formation of lymph channels may take place. Here again a loss of organization may lead to the development of cavernous angiomata and of solid endothelial tumors.

The authors suggest a sequence here somewhat as follows: Cell destruction as a result of chronic alcoholism; chronic gastritis as a protective effort on the part of tissue; regeneration in excess with polypus formation; and lastly, as a result of loss of organization, lawless growth with the production of adenoma and carcinoma, at many points simultaneously.

123. **Cerebral Tuberculosis Following Tuberculous Otitis Media.**—From the history and examination in Reik's case, it was apparent that it was a case of chronic suppurative otitis media, possibly of tuberculous origin, which had certainly invaded the mastoid and probably the intracranial structures. Fever, profuse discharge of pus, fistula in the external auditory canal and partial facial paralysis did not necessarily mean anything more than mastoiditis. Convulsions and a paretic condition of the left side were difficult to explain; the first might be due to a general septic condition accompanying mastoiditis, or to an extradural collection of pus; the increased intracranial pressure produced by the latter lesion might explain the existence of both the convulsions and the paresis. Leptomeningitis was ruled out by the normal condition of the spinal fluid. A cerebral abscess was considered possible, but there were no strong supporting symptoms; only once, at the time of admission, had the temperature been below normal, and that was readily accounted for otherwise; a differential blood count did not indicate it; there were no localizing symptoms; the muscular impairment of the left side suggested a cerebral lesion on the side of the brain opposite to the affected ear. The only possible conclusion then seemed to be to perform a mastoidectomy and explore the base of the brain through this wound. The operation was performed and proved very interesting. When the soft tissues were retracted it was found that Nature had done a fairly complete exenteration of the mastoid, and that, in addition, there was a large sequestrum of the squamous portion of the temporal bone; the posterosuperior bony wall of the canal and the superficial cortex of the mastoid, down nearly to the tip, had necrosed and were represented by a mass of dead tissue only; the sequestrum included the temporal ridge and the squama from above and measured 20 mm. square. Between this and the dura was a considerable collection of pus. It was then a case of mastoiditis with extensive bone destruction and an extradural abscess, the margins of the abscessed areas being completely walled off by inflammatory adhesion of the dura to healthy bone. The immediate result of the operation was satisfactory. The general condition gradually became worse and the patient died six months later. An autopsy was performed. The left hemisphere presented a large abscess cavity involving almost the entire temporo-sphenoidal lobe. Cutting into the brain substance through the diseased-looking spots on the external surface exposed large areas of tuberculous caseation that involved the greater portion of the temporal and parietal lobes. It would seem probable that this was originally a case of tuberculous otitis media and that the mastoid disease and the cerebral abscess were direct sequelæ of this infection.

124. This article will be abstracted in the Department of Therapeutics.

Bulletin American Academy of Medicine, Easton, Pa.

June

125 *Principles of Medical Education. G. H. Hoxie, Kansas City, Mo.
126 The Influence of Race on Infant Mortality. R. C. Cabot and E. K. Richie, Boston.
127 A Plan for the Reduction of Infant Mortality. R. W. Bruere, New York.
128 Educational Responsibilities of a Milk Depot. I. S. Wile, New York.
129 The Responsibilities of General Relief Agencies in the Prevention of Infant Mortality. S. C. Kingsley, Chicago.
130 Philanthropic Experiments in Increasing and Decreasing Infant Mortality. W. Hutchinson, New York.

125. Abstracted in THE JOURNAL, April 2, 1910, p. 1158.

Northwest Medicine, Seattle

June

131 Fractures of the Skull. W. House, Portland.
132 Idem. Points in Diagnosis and Indications for Surgical Treatment. E. O. Jones, Seattle.
133 Medical Organization. P. W. Willis, Seattle.
134 The School Child and the Future Neurasthenic. E. J. Labbe, Portland.
135 Difficulties Occasionally Met in Diagnosis of Pneumonia. C. W. Shaff, Lewiston, Ida.
136 The Place of Electricity in Medicine. F. M. Taylor, Portland, Ore.
137 Tonsillotomy and Tonsillectomy. J. A. M. Hemmeon, Seattle, Wash.
138 Vasomotor Trophic Neurosis. C. W. Sharples, Seattle.

Old Dominion Journal of Medicine and Surgery, Richmond

June

139 *Suggestions for a Better Organization. V. V. Anderson, Lynchburg, Va.
140 [illegible] Washington, D. C.
141 [illegible] licated by Metallic Elements. L. B. [illegible]
142 [illegible] W. F. Lockwood, Baltimore.
143 [illegible] Allen, Charlotte, N. C.

139. **Suggestions for Better Organization.**—The financial side of medicine is reviewed by Anderson, and he emphasizes the fact that physicians must unite to enlighten the public on the danger of ignorant, ill-trained and poverty-stricken physicians, and on the duty of the public to support and encourage both legally and economically a medical profession which can afford to be disinterested, unselfish and philanthropic. If this is not done, the next decade will see the standard of the medical profession lowered simply through force of economic pressure.

Leading men all over this country are lending their efforts toward uniting the profession; are working in season and out of season for better organization, asking the profession to lay aside jealousies and unite for the common good. Local medical societies are discussing the necessity for more widespread interest in the doctor's welfare; medical economics is arousing more interest than ever before.

Vermont Medical Monthly, Burlington

June

144 What Can be Done to Control the Spread of Venereal Diseases? W. S. Reynolds, New York.
145 Renal Insufficiency. W. W. Townsend, Rutland.
146 The Trouble with Therapy. C. H. Beecher, Burlington.
147 Puerperal Septicemia. A. M. Butterfield, Burlington.
148 Treatment for Burns. E. P. Lunderville, Richford, Vt.

New Mexico Medical Journal, East Las Vegas

June

149 Obscure Tuberculous Adenitis. F. T. B. Fest, Las Vegas.
150 Bronchopneumonia. J. B. Graham, Artesia.
151 Surgical Complications of Typhoid Fever. H. A. Ingalls, Roswell.
152 Home Treatment vs. Sanitarium Treatment of Tuberculosis. A. G. Shortle, Albuquerque.

Montreal Medical Journal

July

153 Levulosuria, and its Significance in the Diagnosis of Hepatic Conditions. W. F. Hamilton, Montreal.
154 *Regeneration of Shaft of Tibia Following Extensive Osteomyelitis. L. A. Hutchison, Montreal.
155 Surgical Treatment of Exophthalmic Goiter. F. J. Shepard, Montreal.
156 Th[illegible] in Asylum Practice. W. H. Hattie, [illegible]
157 Ac[illegible] Based on the Observation of Thirty-eight [illegible] Two Autopsies. C. K. Russel, Montreal.
158 Colored Toric Lenses for Use in Examining Cases of Ocular Paralysis. W. G. M. Byers, Montreal.
159 Amblyopia ex Anopsia with Acquisition of Good Vision. G. H. Matthewson, Montreal.

154. **Regeneration of Shaft of Tibia.**—The diaphysis of the right tibia being devoid of periosteum and virtually separated from both the upper and lower epiphyses, Hutchison removed it. Involucrum was already present. After disinfection with pure carbolic acid and alcohol, the part was packed with iodoform gauze and limb placed in a plaster cast, leaving a fenestra over the wound. Eleven days later, under ether anesthesia, the cavity was disinfected, the periosteum separated from subcutaneous tissue and brought together at a few points with catgut sutures, with a view to reproducing the original circular form of the periosteum. The periosteum was then filled with Mosetig-Moorhof's plumbage. The skin being brought together over the surface, provision was made for drainage by the introduction of iodoform gauze at the upper and lower margins carried down to the epiphysis. The limb was put in a plaster cast supplemented with a weight and pulley extension apparatus, in the hope that this might aid in retaining the normal position of the limb during the process of repair, thus preventing curving due to fibula continuing its longitudinal growth, as well as the lack after the removal of the sequestrum. Drainage was kept up for many months, small particles of iodoform plumbage being washed out from time to time. Patient was discharged five months later in good condition with his limb in a plaster case. There was slight antero-posterior movement in the middle of the shaft on the new growth. A year later complete regeneration of the bone had taken place.

Western Medical Review, Omaha

June

160 Present Status and Tendencies of the Medical Profession. P. H. Salter, Norfolk, Neb.
161 Epidemic Infantile Poliomyelitis. G. P. Shidler, York, Neb.

Journal Advanced Therapeutics, New York

June

162 Obliterating Endarteritis of the Digitals, Dorsals and Plantares. H. W. [illegible] New York.
163 Action of the X-ray a[illegible] Currents in Pulmonary Tuberculosis. [illegible] ork City.
164 Diabetes Mellitus. F. B. Bishop, Washington, D. C.
165 Goiter. H. Snow, Norwood, Ohio.

St. Louis Medical Review

June

166 Tuberculosis. R. F. Bellaire, St. Louis.
167 Conservation of Human Life. L. [illegible] Chicago. [illegible] Mo.
168 *Treatment of [illegible] F. T. [illegible] s.
169 Surgery of the [illegible]
170 Headache. G [illegible] St. Louis.
171 Sarcoma of the Uterus. H. C. [illegible]

168. **Treatment of Trachoma.**—The suggestion Hornback makes refers to dilatation or stretching of the lids, exerted mainly on the external portion of the lids, that is, toward the outer canthus, thereby avoiding the possibility of in any way disturbing the integrity of the *canaliculi.* This treatment is applied especially to selected cases, in which, by reason of the irritation accompanying trachoma, the lids were tightly drawn and almost constantly blinking, and, as it were, fairly wearing the cornea away. Under cocain anesthesia Hornback gently introduces the tip of the forefinger or the end of the smooth broad handle of an appropriate instrument, beneath the upper lid. Gentle but firm traction is then made on the lid especially toward the outer canthus. The degree of traction will have to be governed by the individual case. After finishing with the upper lid, the lower lid should receive the same kind of treatment, but to a lesser degree, as usually very little irritation of the cornea comes from the lower lid. In the after-treatment of these lids, one gets a slight dilatation when making the application itself. Hornback takes a stiff applicator, either metal or wood, and winds it firmly with absorbent cotton, dips it in whatever solution he wishes to use, then passes it beneath the lid and gently pulls toward him as he rubs the applicator from side to side beneath the lid. This application serves a three-fold purpose, viz., slight dilatation, friction, or massage, and medication.

Atlanta Journal-Record of Medicine

June

172 Practical Aids in Medical and Surgical Diagnosis. L. M. Gaines, Atlanta.
173 Vaccine in Tuberculosis. E. C. Thrash, Atlanta, Ga.
174 Treatment of Chronic Prostatitis. A. L. Fowler, Atlanta, Ga.
175 The Doctor, The Public and Medical Legislation. J. G. Dean, Dawson, Ga.
176 Brain Tumor, with Exhibit of Two Patients. W. Taylor, Atlanta, Ga.
177 Alcoholism and Drug Addictions. W. A. Starnes, Atlanta.
178 Hookworm Eradication. L. J. Sharp, Commerce, Ga.
179 Purpura. L. C. Allen, Hoschton, Ga.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

July 2

1 *The Treatment of Chronic Bright's Disease. W. P. Herringham.
2 *The "Pancreatic Reaction" in Abdominal Disease. W. Russell.
3 *The Results of the "Pancreatic Reaction." P. J. Cammidge.
4 Gall-stones: Acute Pancreatitis: Recovery. C. E. Salter.
5 Impacted Gall-stones in Cystic Duct: Operation: Recovery. C. F. Fothergill.
6 Dermatitis Artefacta and its Sequel. R. O. Adamson.

1. **Treatment of Chronic Bright's Disease.**—For the headache of chronic diffuse nephritis, Herringham has never, he says, found any drug so good as cannabis indica. It is better than any of the coal-tar compounds. He generally combines it with small doses of iodid and bromid of potassium. High blood-pressure he has come to regard as a conservative effort. In older people, no doubt, it brings dangers of its own, especially of cerebral hemorrhage from rupture of the vessels. Endarteritis is not the same thing as, is not even a cause of, fragility. That is due to changes in the media which depend chiefly on age. Accordingly, these patients stand a blood-pressure which older patients could not bear, and, as a matter of fact, seldom die of cerebral hemorrhage. Herringham maintains that one is not obliged to regard their high blood-pressure as a serious danger. It is an effort not only to maintain the general circulation, but also the flow of blood through the kidneys, which is of the last importance to postpone uremia.

Uremia he is inclined to regard as due to the absorption of some product of renal cells destroyed in the progress of the disease, and compares it to the condition called cholemia in which many cases of hepatic cirrhosis terminate. The symptoms of each are not unlike, and the morbid process is similar also. What are we to do, he asks, when the urine becomes scanty? It may seem madness to employ digitalis when the pressure is already excessive. Herringham has given reasons for believing that the danger in this direction is not so great as we think, and the circumstances are desperate. Accordingly, while endeavoring to lighten the task of the kidneys by means of the skin, while using hot packs, hot air baths, and even injections of pilocarpin nitrate in order to secure the removal of some water and salts by perspiration, we must at the same time, by digitalis and theobromin sodium salicylate, try to raise the blood-pressure and recover the level of excretion. If the uremia manifests itself, as it sometimes does, rather by dyspnea than by convulsions, the inhalation of oxygen is an additional aid. Should, however, the fits continue, relief must be given by bleeding.

2. **Pancreatic Reaction in Abdominal Disease.**—In his investigation Russell confined himself to the examination of the urine in patients with abdominal symptoms, or definite abdominal lesions, as his aim was to ascertain whether any assistance was to be obtained from the presence or absence of the reaction in making a differential diagnosis. Cases were selected in which it was thought that the reaction might be helpful in one or other direction. He has tabulated 78 cases which are fairly representative of the types of abdominal cases met with. There are four cases in which the reaction was not only positive, but marked in amount and in the promptness of its appearance. One patient had necrotic pancreatitis and died of a profound toxic asthenia. The second patient was a man with not very definite gastric symptoms who shortly after admission developed a condition of toxic asthenia, and whose urine deposited Cammidge crystals copiously after ten minutes. This patient passed one or two motions involuntarily which contained altered blood, as shown by chemical examination. At the autopsy there was found a small malignant growth on the posterior wall of the stomach which had become a slough, while the liver presented an extraordinary appearance from the presence not only of secondary growths, but extensive necrosis from infarction. The pancreas presented no abnormal change. Three cases of cirrhotic liver gave a positive reaction.

Fifty-five cases, most of them hospital cases, with symptoms referable to disordered gastrointestinal function, sufficiently severe to require hospital treatment, or with definite lesion; constitute a series of almost consecutive cases, in many of which it was thought the reaction might be found to be of some diagnostic significance. In 26 of them the reaction was negative, in 29 it was positive. Of 5 check cases in persons with no abnormal symptoms, one, a case of arteriosclerosis with normal pancreas, gave three times a positive reaction and once a negative; another, a woman suffering from subacute rheumatism, gave three times a positive reaction. Seven observations made on three of the staff gave 6 positive reactions and one negative, and these men were all in excellent health at the time.

From these results it is seen that a positive Cammidge reaction may be obtained from the urine of persons in good health suffering from a great variety of abdominal disease or disorder; that it may be present when autopsy shows that the pancreas is not the seat of any anatomic change. All this to the physician and to the pathologist definitely excludes pancreatitis as the cause of the Cammidge reaction.

3. **Pancreatic Reaction.**—Thirteen cases of acute pancreatitis gave a positive pancreatic reaction; 6 patients were operated on, and the pancreas was found to be acutely inflamed in all, with disseminated fat necrosis in 5. The diagnosis was confirmed by post-mortem examination in 3. Gall-stones were discovered in the common bile duct of 2. One had a history of repeated attacks of jaundice with spasm, and had probably suffered from common duct cholelithiasis, but there was no jaundice at the time of analysis. In three, the pancreatitis was the sequel of an attack of mumps, but in 4 other cases of the same disease the urine gave no reaction. Two cases gave a history of indigestion and abdominal discomfort extending over several months previous to the attack. Three of the patients operated on died, and 3, including the 2 in whom gall-stones were found, recovered. All the patients not operated on died, except the 3 whose pancreatitis followed mumps.

Cammidge examined specimens of urine from 264 patients in which gall-stones were found at operation, and of these 149 (56 per cent.) gave a positive reaction. In 183 patients the gall-stones were in the common bile duct, and of these 131 (69.6 per cent.) gave a positive, and 57 (30.4 per cent.) gave a negative pancreatic reaction—percentages which correspond fairly closely with the proportion of patients in whom the common bile duct lies embedded in the pancreas (62 per cent.) and runs in a groove on the surface of the gland (38 per cent.). Out of 76 patients in whom gall-stones were found in the gall bladder or cystic duct at operation only 18 gave a positive pancreatic reaction and were stated to have pancreatitis; 58 gave a negative result, as did also 17, diagnosed clinically as cholecystitis, 6 of whom were operated on, that Cammidge included in the miscellaneous group. Bile pigment was found in the urines of 11, including 9 of those that gave a positive pancreatic reaction; 15 gave a reaction for urobilin, and of these 10 gave a pancreatic reaction. Calcium oxalate crystals were met with in the deposit from the urines of all those that gave a positive pancreatic reaction, and in 4 of those with which no reaction was obtained. Of 403 cases in which the clinical symptoms and results of the analysis of the urine and feces point to there being disease of the intestine other than a malignant growth, the urines of 211 (52 per cent.) gave a positive pancreatic reaction.

A diagnosis of catarrhal jaundice was made in 53 of the patients examined and in 42 of these a positive pancreatic reaction was obtained, suggesting that in over 79 per cent. the condition was associated with some active degenerative changes in the pancreas. Fifteen of the patients giving a positive reaction were submitted to operation because of the persistence of the jaundice, and in all of these the pancreas was found to be enlarged and harder than normal. Cammidge examined specimens of urine from 50 cases of ulcer of the duodenum and 47 of gastric ulcer, all of which were confirmed by operation; 27 (54 per cent.) of the former and only 5 (10.6 per cent.) of the latter gave a pancreatic reaction. In 2 of the cases of gastric ulcer, and in 1 of duodenal ulcer, the ulcer was said to be eroding the pancreas. Out of the 13 cases of sprue, 8 gave a positive reaction, and in 2 of these post-mortem examination showed pancreatitis; 4 out of the 6 cases diagnosed as pernicious anemia gave a pancreatic reaction. In one of these, examination after death revealed chronic inflammation of the pancreas and an ulcerated condition of the duodenal mucous membrane. Operation on 2 also tended to confirm the diagnosis of chronic pancreatitis. Six cases diagnosed as tuberculosis of the intestine gave a negative reaction, as did also 3 of pulmonary tuberculosis. Cammidge has examined the urine from 92 cases of malignant disease, and obtained a positive pancreatic reaction in 34 (37 per cent.). Of the four patients with pancreatic cyst that he has examined the urines of 2 gave a positive pancreatic reaction and in 2 it was negative. One of the latter had, however, been operated on, and the cyst drained for some three months. Of the 73 cases diagnosed as cancer of the pancreas that Cammidge has examined, the urines of 24 of the patients (33 per cent.) gave a positive reaction and 49 (67 per cent.) gave a negative reaction. The diagnosis was confirmed by operation in 18, and by post-mortem examination in 7. Two of the latter had given a positive result and 5 a negative reaction, which corresponds with the proportions diagnosed clinically at operation, which have given a positive and negative results respectively. In a miscellaneous group of 467 cases 461 gave a negative pancreatic reaction. Of normal specimens of urine from 50 presumably healthy individuals, none gave a positive pancreatic reaction.

Lancet, London

July 2

7 *The Cerebrospinal Fluid. F. W. Mott.
8 The Behavior of the Leucocytes in Infection and Immunity. F. W. Andrewes.
9 *The Pelvic Conditions Resulting from the Slighter Forms of Puerperal Sepsis and Their Treatment. W. J. Sinclair.
10 The Tuberculous Gland; Its Significance and Treatment. R. W. Philip.
11 Administration of the Public Health and Education Acts in Relation to the Prevention and Cure of Diseases of the Nose and Throat. T. J. Faulder.
12 Points in Favor of Early Operation in Appendicitis. A. H. Buck.
13 *Distribution of Treponema Pallidum in Congenital Gummata. A. E. Shaw.
14 Obscure Cases of Extrauterine Pregnancy. T. B. Broadway.

7. **The Cerebrospinal Fluid.**—It is contended by Mott that the cerebrospinal fluid comes into relation with the nerve-cell elements and therefore may be the ambient fluid. Substances are unable to pass from the capillaries into the lymph spaces, but experiments show that substances are able to find their way rapidly into the blood when injected into the subarachnoid space. This may be by the channels already alluded to. Mott has shown that the perivascular lymphatics open into

the subarachnoid space, and if these perivascular lymphatics contained ordinary tissue lymph, the cerebrospinal fluid would contain a very much larger amount of protein and lymph-cells than it does; there must be some medium of exchange between the blood in the capillaries and the neurons, and, therefore, why not, he asks, the cerebrospinal fluid?

Suppose it be granted that the cerebrospinal fluid may functionate as the lymph of the brain, and is the ambient fluid in which exchanges take place between the blood in the capillaries and the neurons, can we explain why substances do not pass out of the capillaries into the fluid? Most authorities are agreed that there is no lymphatic sheath on the capillaries, so that we have only, so far as we know, the wall of the capillary intervening between the blood and a fluid which is similar to blood plasma in its crystallized diffusible substances although not identical, for its alkalinity is only half that of the blood, and the sugar it contains is less. Is it a reasonable hypothesis, asks Mott, that the osmotic pressure as regards water and carbon dioxid is from the ambient cerebrospinal fluid of the blood, and that certain of the salts and sugar pass from the blood to the fluid through the wall of the capillary? As we have no precise knowledge of the composition of the cerebrospinal fluid as it leaves the cells of the choroid plexus, we can only say it is possible that this fluid is not exactly the same in composition as that which is contained in the subarachnoid space. By this Mott means to infer that the fluid which is secreted by the epithelial cells of the choroidal gland in its passage from the subarachnoid space along the perivascular lymphatics back to the subarachnoid space may receive substances—e. g., an addition of sugar and possibly some salts.

Whether this fluid, as it is secreted by the choroid plexus, is the same as that withdrawn from the subarachnoid space by lumbar puncture is the crucial point which requires to be settled before the hypothesis Mott would draw, can be maintained. The hypothesis is that the fluid as it circulates in the perivascular and pericellular channels may give up water and carbon dioxid and take up oxygen and sugar. Seeing that there is no proof that the fluid contains a glycolytic ferment, it may, if this hypothesis is true, be assumed that the ganglion cells produce the necessary glycolytic ferment by which the sugar can be converted into neural energy. The observations and experiments are, however, all in a preliminary stage and much work still is necessary before any safe conclusions can be drawn. The results so far obtained, however, are sufficiently encouraging to lead to a continuance of the work.

9. Same as No. 36, below.

13. Treponema Pallidum.—In a section of a small liver gumma (which was about ⅛ inch in diameter) Shaw was struck by the appearance of a dense black band disposed more or less concentrically to the center of the gumma, but at its periphery. This band occupied the position of a boundary zone between the healthy liver tissue and the gumma tissue; it was, in fact, the periphery of the gumma. This was seen with a ⅓ inch objective. On applying the 1/12 inch oil immersion, this black band resolved itself into a dense felted network of spirochetes which were lying at every possible angle to the plane of section, and overlying each other like handfuls of pins. Proceeding inward from this band toward the center of the gumma there were many more, but proceeding outward from the black band above mentioned they rapidly diminished in number as healthy tissue was reached, till at a distance of about a millimeter from the gumma they were very infrequent. Similarly prepared and cut sections of many other gummata were examined, and in all of them this peripheral band could be seen, varying in thickness and occasionally more or less interrupted, and always on being examined it was found to be caused by thickly aggregated spirochetes.

Clinical Journal, London

June 22

15 Foreign Bodies in the Air-Passages. C. Wall.
16 The Treatment of Indigestion. E. I. Spriggs.

June 29

17 Inguinal Ruptures Which are Difficult to Manage and Their Treatment. C. B. Lockwood.

Australasian Medical Gazette, Sydney

May

18 Filaria in Queensland. E. S. Jackson.
19 Id. P. Bancroft.
20 Filariasis. J. B. McLean.
21 *Two Interesting Human "Dermoid Cysts" of the Ovary (Embryomata). J. B. Cleland.
22 Treatment of Hydatid Sinuses by Injections of Bismuth Vaselin. P. Bollen.
23 Bullet Wound in the Abdomen. P. T. S. Cherry.
24 Tests for Color Vision. C. H. Taylor.
25 Question of Premature Termination of Pregnancy. W. T. Chenhall.
26 Extrauterine Pregnancy. H. R. Rice.

21. Human "Dermoid Cyst" of Ovary.—In the first of these cysts seen by Cleland a small embedded mass had the naked-eye appearance of the thyroid tissue, and, on microscopic examination, showed the typical characters of that gland. The other cyst besides having contents of fatty matter and hairs, and showing several perfect teeth, and microscopically many sebaceous glands, had at one part a projecting mass. On the under side are a number of teeth—in the center two perfect incisors, on each side of these a perfect bicuspid, while on the (observer's) left side, two masses irregularly placed probably represent unerupted molars. Above this was a mass of cancellous bone and muscular tissue, through which traveled backward, immediately above the teeth, a laterally compressed smooth lined cavity, divided into two by a partition. From the outer wall of this cavity on one side projected mesially a rounded fold (turbinated bone?). These cavities were evidently the nasal. Above them was a vague mass of fatty and other tissue, and above this again a broad strand of nervous matter, loosely adherent to the underlying structures. This strand was 1½ inches long by ⅜ inch broad by ⅛ inch thick. It was enveloped by an imperfect membrane and attached to it and projecting forward in front of the teeth was a smooth-lined cyst, 1½ inches long by ¾ inch wide by ½ inch deep, which stretches across the cavity of the dermoid to be attached to the opposite wall. A small cyst, attached to the nervous strand, contained a light yellow fluid which did not actually reduce Fehling's solution, but altered slightly its color.

Sections of the band of nervous tissue showed a granular matrix with fairly numerous scattered small cells like neuroglia cells and small vessels. There were also a few large cells highly suggestive of cortical cells and scattered concentric bodies (corpora amylacea). At one spot was a large mass of melanin granules surrounded by fibrous tissue.

Dublin Journal of Medical Science

June

27 Acute Leukemia. T. G. Moorhead.
28 Splenomedullary Leukemia Treated by X-rays. M. R. J. Hayes.
29 The History of the Prevention of Smallpox. T. P. C. Kirkpatrick.
30 *Radical Operation for the Cure of Umbilical Hernia. J. S. Darling.

30. Umbilical Hernia.—Darling's operation differs from Mayo's in that the lower portion of the ring is deeply embraced in the split rectus muscle above, and a double abdominal wall is opposed to the internal pressure.

Medical Press and Circular, London

June 22

31 Head's Area as a Diagnosis in Dental Cases. A. W. W. Baker.
32 Referred Cardiac Pain. F. G. Thomson.
33 Gall-stones: Their Medicinal and Prophylactic Treatment. J. E. McCracken.
34 *A New and Simple Method of Performing Wassermann's Test for the Diagnosis of Syphilis. R. Weiss.

June 29

35 Demonstration of Surgical Cases. A. H. Tubby.
36 *The Pelvic Conditions Resulting from the Slighter Forms of Puerperal Sepsis and Their Treatment. W. J. Sinclair.
37 The Prevention of Mortality after Pelvic Operations. H. Macnaughton-Jones.
38 The Wassermann Reaction. P. Rostaigne.

34. Wassermann Test for Diagnosis of Syphilis.—Weiss describes his method as follows: Open the bottle containing antigen and draw the fluid up into the dark amber glass pipette to the graduation. Eject this into two tubes. Add 2 c.c. salt solution to the antigen in tube 1. Place 2 c.c. salt solution in tube 2. (This tube forms the control.) Place two complement papers in each test tube. These must be completely immersed in fluid. Take up defibrinated blood in the light brown pipette to the graduation mark. Transfer this to tube 1. Put an equivalent amount of defibrinated blood in tube 2. Let the two tubes remain at a temperature of the room for an hour. Shake from time to time. By means of an ungraduated pipette, transfer the contents of one amboceptor bulb to tube 1 and a similar quantity of amboceptor to tube 2. Shake well. Ten to fifteen minutes later again shake. In a short time the control tube 2 will show solution of the blood-corpuscles, and the liquid will become red. In tube 1, if the reaction is negative, the appearances will be identical with those in the control tube (either at the same time or a little later). If the reaction is positive, tube 2 will show a sedimentation of the red corpuscles, but no solution, and in about 30 minutes the blood-corpuscles will have settled to the bottom of the tube without the blood-cells being dissolved, and the supernatant liquid will be clear and light. A certain amount of solution of the red corpuscles may take place in tube 1, if it is allowed to stand for some hours. As controls it is recommended that serum known to yield a positive result should be tested, and also serum from a healthy individual.

36. **Pelvic Conditions in Puerperal Sepsis.**—Sinclair holds that every woman should be carefully examined 6 or 8 weeks after her confinement; if subinvolution without complication is discovered treatment should at once be begun with the object of bringing the uterus to its normal condition; if uncomplicated retroflexion is diagnosed the use of tampons, followed by the temporary wearing of a pessary, may possibly be successful; if tampon and pessary fail to restore the uterus to its normal condition and position, adhesions must be suspected and efforts made to break them down by manipulations under anesthesia; failing success by manipulation, ventrofixation with the necessary modifications is the only rational operation; in every case of one-child sterility with retroflexion, whatever the negative evidence, puerperal sepsis to some degree should be assumed as the case and ventrofixation resorted to. Sinclair says that as the futility of pessary treatment becomes more generally recognized, ventrofixation will take its proper place as the only reliable and successful method of treating all complicated cases of displacement of the uterus.

Indian Medical Gazette, Calcutta

June

39 The Treatment of Snake-bites with Potassium Permanganate. W. B. Bannerman.
40 Operation Rooms in the Tropics. W. G. King.
41 The Indian Oculist; His Equipment and Methods. H. E. Drake-Brockman.
42 Technic of the Hypodermic Injection, Including a Critical Survey of the Types of Syringe in Use. W. E. McKechnie.

Bulletin de l'Académie de Médecine, Paris

June 21, LXXIV, No. 24, pp. 613-650

43 *Vaccination of Man Against Typhoid Fever. H. Vincent.
44 *Inflammatory Tumors Produced by Lint from the Dressings. (Tumeurs inflammatoires produites par certains pansements.) P. Reynier.
45 Symmetrical Brachydactylia and Other Skeleton Anomalies Inherited Through Several Generations. (Tératologie humaine.) E. Vidal.

43. **Vaccination Against Typhoid.**—See Paris Letter, July 9, page 138.

44. **Inflammatory Tumors Produced by Scraps of Cotton from Dressings.**—Reynier and Masson found a cotton thread in the depths of a tumor that developed after operative removal of a mammary cancer in one case and of a cancer of the neck in a young man. In each case the cotton fiber had evidently been pressed or sucked into an open vessel and it had induced an extensive reaction of phagocytic giant cells. They suggest that the intense sterilization to which the gauze sponges are subjected renders them friable so that scraps of lint may readily be left behind. In a third case the inflammatory tumor had developed in the stomach after an operation on the pylorus. They suggest hemming the gauze to do away with raw edges. These pseudorecurrences of cancer are probably quite common; the brief interval—only 20 days in the first case—and the size of the lesion in comparison with this short interval, should suggest the true nature of the tumor observed. Possibly the fact that the above were all cancer cases may explain the exuberance of the phagocytic reaction. In the first case the inflammatory tumor extended along the pectoralis muscle, and it was hard and knobby, of fibrous consistency, compelling removal of a large mass of muscle, curetting the axilla and resecting 6 cm. of the axillary vein.

Presse Médicale, Paris

June 22, XVIII, No. 50, pp. 465-472

46 *Autoserotherapy with Ascitic Effusion. G. Roque and V. Cordier.
47 Staphylococcus Vaccine in Treatment of Staphylococcus Skin Disease. A. Mauté.
48 Technic for Determination of Typhoid and Paratyphoid Bacilli in the Stools. A. Sicre and E. Combe.

June 25, No. 51, pp. 473-488

49 *Catheterization of the Ureters and Intravesical Segregation of the Urine. H. Boyer.
50 Physiologic Bases of Medical Electricity. (La sclérolyse électrique.) A. Zimmern and P. Cottenot.
51 The Painful Spots in the Abdomen with Chronic Appendicitis. J. Silhol.
52 The Ciliary Ganglion as the Peripheral Center for the Pupil Reaction to Light and the Argyll-Robertson Phenomenon. A. Marina.

46. **Autoserotherapy of Ascites.**—Roque and Cordier had such favorable experiences with autoserotherapy of pleuritic effusions that they were impelled to try this method of treatment in several cases of ascites, but the results were discouraging. It is possible, however, they say, that they encountered an unusually unfortunate series, and they are now still trying the treatment, as their experiences have amply demonstrated its entire harmlessness.

49. **Catheterization of the Ureters.**—Boyer reviews a number of experiences at the Necker Hospital at Paris in which catheterization of the ureters proved of decisive differential value, while attempts at segregation of the urine in the bladder by the Luys and Cathelin methods gave misleading findings. The best of all means of testing the functioning of the kidneys Boyer believes to be Albarran's two-hour experimental polyuria method. The catheters are placed in the ureters and left there for two hours, the amount of urine collected is measured every half hour, and between the first and the second half hour the patient drinks three tumblerfuls of water, inducing extra functioning on the part of the kidneys. The results of this test are always instructive and sometimes fairly marvelous, Boyer exclaims. In one case the segregation findings seemed to indicate normal functioning of one kidney while the pyonephrosis of the other had suppressed entirely its functioning. The polyuria test, however, revealed that the apparently sound kidney was utterly incapable of responding to even this slight extra demand, showing that the contemplated nephrectomy would have been fatal. Simple nephrostomy tided the patient past the danger point. In another typical case three surgeons counseled nephrectomy for supposed tuberculosis of the kidney, but the ureter catheter revealed that the trouble was hematuria complicating an absolutely latent hydronephrosis. The ureter catheter not only diagnoses the trouble but it is a potent means of treatment besides. One of the patients had suffered for twenty years from pains in the right side, and had been treated for supposed liver, intestinal and gastric trouble, and even the gall-bladder had been removed, but the pains continued unmodified. The ureter catheter disclosed that the trouble was merely a slight pyelonephritis in a movable kidney with a little dilatation of the pelvis. A few lavages of the pelvis cured the infection and the patient was freed at once from all disturbances and has had no recurrence for over a year to date. In another case the ureter catheter displaced a small calculus which had totally obstructed the flow of urine from a large single kidney, after anuria for seven days. The harmlessness of catheterization of the ureters is amply proved by "Mother Jolly," the woman for whom Albarran invented the ureter catheter in 1885, and on whom he tried it again and again until he had perfected it to his satisfaction. She had pyonephrosis but refused to have the kidney removed, preferring to submit to anything rather than nephrectomy. Her kidney is still *in situ* and it still gives its 7 or 8 gm. of urine a day with 12 per thousand urea. She has passed through two normal pregnancies since and is still active as a sick nurse. Partly from therapeutic purposes and partly from kindly interest in the advancement of medical science she has served

as a living manikin for the demonstration of catheterization of the ureters for hundreds of students, so that her right ureter has been catheterized more than five hundred times.

Semaine Médicale, Paris

June 29, XXX, No. 26, pp. 301-312

53 *Spasmodic Ileus and Chronic Enterospasm. L. Cheinisse.

53. **Spasmodic Ileus and Enterospasm.**—Cheinisse has been able to find quite a number of cases on record in which enterospasm induced ileus, simulated appendicitis or was responsible for serious disturbances otherwise. The spasmodic contraction may be a reaction to the presence of even a small gall-stone, foreign body, débris of food or helminths in the bowel, or it may be a reaction to some abdominal lesion outside the intestines as in the case reported recently by Exner and Jäger, in which a retroperitoneal tumor had involved the nerves of the region, and the enterospasm was evidently due to nervous influences outside. The enterospasm may be acute or chronic. Rinne has recently reported a case in which a portion of the small intestine four inches long was tightly contracted, but the long chronic disturbances subsided for three years after the laparotomy. Then they returned under the influence of emotional stress. Hot applications and belladonna, which had before been ineffectual, this time rapidly conquered the enterospasm. In Descœudres' recently published case the acute intensely painful enterospasm in a farmer of 50, was accompanied by somnolency, subdelirium and vomiting. The laparotomy revealed that the small intestine was contracted over a clump of six long ascarides, all dead. The symptoms grew worse and the patient died 72 hours after their first onset. The symptoms on the part of the nervous system observed in this case were probably due to absorption of toxins from the living or dead helminths.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVI, No. 3, pp. 183-325. Last indexed June 4, p. 1909

54 *Minute Doses of Tuberculin as Means to Abolish Fever. (Ueber Entfieberungen bei Lungentuberkulose durch kleinste Dosen Tuberkulin.) Philippi.
55 *Tuberculous Consequences of Idiopathic Pleurisy. H. Allard.
56 *Serodiagnosis of Pulmonary Tuberculosis. F. Starkloff.
57 Combined Specific Treatment of Tuberculosis. A. Aravandinos.
58 *Temperature of the Tuberculous at Night. (Ergebnisse nächtlicher Temperaturmessungen bei Tuberkulösen.) F. Junker.
59 Omentum Tumor. (Netztumor.) O. R. Teutschlaender.
60 Tuberculin Immunity. F. Hamburger and R. Monti.
61 *Early Recognition and Treatment of Tuberculosis with Tuberculin.* (Frühzeitige [illegible] und Behandlung der [illegible] durch [illegible]
62 *[illegible] Tubercu[illegible] über [illegible] Bedeutung [illegible] A. Erlandsen and O. V. C. E. Petersen.

54. **Disappearance of Fever Under the Influence of Tuberculin.**—Philippi remarks that there have been comparatively few articles published on tuberculin as a means to restore the temperature of the tuberculous permanently to normal, and yet he considers this one of its most important functions and a most decisive proof of its therapeutic efficiency on the whole. He reports 90 febrile cases and states that the fever was thus banished in 65; that is, in 72.2 per cent. He gives the tuberculin in the minutest doses, and the results in the chronic subfebrile cases are surpassing all anticipations. The guide to dosage is the systematic examination of the tuberculous focus in the lung 24 hours after each injection and again just before repeating the injection. He aimed merely to keep the dose just at the level of a distinct action on the focus without general reaction. This method requires extreme individualization, adapting the dose to the special conditions encountered at each examination. The doses ranged up to 3 and 6 millionths of a milligram; the febrile reaction sometimes observed even with these minute doses confirms their pharmacologic power. A focus in the lung shows a reaction to the tuberculin more readily than a bone, glandular or laryngeal process. The 90 cases were under observation in the course of 4½ years and an average of 36 or 24 days was required before the temperature became permanently normal in the 27 patients in the first stage of tuberculosis; from 46 to 28 days in the 23 patients in the second stage, and 63 to 41 days in the 40 in the third stage. All this material is compared with control series in each group, not given tuberculin treatment.

55. **Tuberculous Sequences of Idiopathic Pleurisy.**—Allard has been investigating how many patients with idiopathic pleurisy acquire tuberculosis later. After reviewing the literature on the subject he gives the results of inquiry into the present condition of all the patients with idiopathic pleurisy at the three hospitals in Gothenburg since 1881, most of them having been examined twice with an interval of 5 years. Of the 200 patients, 61 have died of tuberculosis and 27 per cent. of all the children under 15 and 54 per cent. of all the patients between 16 and 50 are now tuberculous. The tuberculous focus is generally on the same side as the pleurisy. The data presented seem to indicate that idiopathic pleurisy is of tuberculous origin more often than is generally suspected.

56. **Serologic Diagnosis of Tuberculosis.**—The various methods for serologic differentiation of tuberculosis were given a thorough trial by Starkloff, but none stood the test except J. Bauer's method of passive transmission to guinea-pigs of the hypersensitiveness of the tuberculous. This is demonstrated by the reaction afterward of the animal to injection of tuberculin. The anaphylaxis thus conferred on the animal was the more pronounced the more serious the tuberculosis in the patient yielding the material. The advantage of this technic is that the reaction to the tuberculin test is transferred from the patient to the guinea-pig and the patient is thus spared the disagreeable reaction, while the findings are equally conclusive as if it had occurred in him. The animals are kept for a few days in an equably warmed room, and their temperature taken every four hours. They are then given a subcutaneous injection of 1 or 2 c.c. of human serum, centrifugated and injected under the skin of the abdomen. The temperature is then taken every 2 hours and, at the end of 24 hours, 0.1 c.c. of "old" tuberculin is subcutaneously injected and the temperature taken every hour, as the reaction is liable to occur early and be brief; it may even be past in 2 hours. An unmistakable rise in temperature is a proof that the tuberculin injected has encountered antibodies in conjunction with which it induces the temperature reaction. In other words, the rise in temperature demonstrates the passive transmission of hypersusceptibility and shows that the person from whom the serum had been derived must have, himself, been hypersusceptible. The control tests were all negative in Starkloff's extensive research when the serum had been derived from persons without active tuberculosis.

58. **Taking the Temperature at Night in the Tuberculous.**—Junker uses a rectal maximal thermometer in the form of a small suppository which he has found very convenient, and which has revealed an unsuspected frequency of high temperatures during the night in the tuberculous, or of fever when the temperature was normal during the day. The "retention" maximal thermometer either day or night may also prove useful in estimating the severity of tuberculosis.

62. **The Quantitative Titration Tuberculin Test.**—Erlandsen and Petersen comment on the errors liable with other methods of tuberculin-testing and especially the sensitization liable to occur on repeating the subcutaneous tuberculin test, inducing misleading findings. These errors are obviated with the simultaneous application of the tuberculin in varying concentrations according to the Erlandsen and Ellermann titration method (described in The Journal, May 15, 1909, page 1634, and May 14, 1910, page 1656). This article reports the findings with this test applied to 566 persons, including 44 tuberculous, 46 suspects and 457 with no clinical signs of tuberculosis. The post-mortem findings in 27 autopsies confirmed those of the titration test. A row of 5 incisions is made with a lancet adjusted to cut only to a certain depth; one serves as a control, the others are inoculated with a 32 per cent., 8, 2 and 0.5 per cent. solution of tuberculin. The diameter of the papules, measured at the twenty-fourth and forty-eighth hours, is the criterion, and the average diameter of the four papules is used in the formula to compute the actual titration finding. The material reported on is classified as (1) the clinically non-tuberculous, *a*, without tuberculosis in the family, and *b*, with; (2) the suspects, *a*, with suspicious antecedents, and *b*, with scrofula in childhood; and (3) the tuberculous, *a*, in the first stage of pulmonary disease or

with bone, glandular or other tuberculous lesions, and *b*, advanced tuberculosis in any organ. The entire material is tabulated with the details. The titration value persists high for a long time in persons who had glandular or bone tuberculous process in youth, and this should be borne in mind in estimating any reaction to tuberculin. When the titration value is low in persons known to have had a tuberculous process, this sustains the assumption that it is no longer active.

Berliner klinische Wochenschrift

June 13, XLVII, No. 24, pp. 1093-1164

63 *Diagnosis of Typhoid. (Klinische Betrachtungen zur Typhusdiagnose.) L. Wagner.
64 *Importance of Bacteria of the Paratyphoid B Group in Human and Animal Pathology. E. Hübener.
65 Paratyphoid Infection in an Infant. Eckert.
66 Systematic Prophylaxis of Diphtheria. (Zur Frage der [illegible] Otto.
67 [illegible] eart Rhythm. [illegible]
68 * [illegible] mann.
69 * [illegible] Loop of Wire [illegible] der Facialis- [illegible]
70 [illegible] ein Hindernis [illegible] ungen
71 [illegible] umor. [illegible] O. Rumpel.
72 *Transplantation of Human Ovaries. F. Kayser.
73 Recognition and Military Importance of the "Psychopathic Constitution." E. Stier.
74 *Cerebral Syphilis During the Secondary Stage. (Zur Kenntnis der Gehirnsyphilis im Sekundarstadium.) H. Löhe.
75 Behavior of Retina with Choroidal Tumors. (Zum Verhalten der Netzhaut im Bereiche von Aderhauttumoren.) O. Napp.
76 *Diagnosis of Intraocular Tumors by Transillumination. (Diagnose intraocularer Tumoren mittels Durchleuchtung des Augenhintergrundes.) [illegible]
77 *Eye-Migraine Caused [illegible] sitis. (Augenmigräne und [illegible]
78 Portable Apparatus fo[illegible] r of Troops in the Fie[illegible] der Truppe im Felde.)
79 Motor Wagons in the Army. (Kraftwagen im Heeressanitätsdienste.) G. Schmidt.
80 The Founding of Berlin University. A. Köhler.
81 [illegible] in the Service of Surgery. H. L. Posner.
82 [illegible] the Military Medical Academy. (Kaiser [illegible] O. F. Paalzow and Zeyss.

63. **Diagnosis of Typhoid.**—Wagner expatiates on the importance of bacteriologic confirmation of the diagnosis of typhoid, citing a typical case of sepsis simulating typhoid, but after all, he says, the general impression of the clinician is the most important factor in differentiation.

64. **Paratyphoid Infection.**—Hübener remarks that the clinical picture of paratyphoid infection is far from resembling typhoid, and the name is a misnomer. Infection may occur from man, from diseased animals and from inanimate nature. The bacilli have been found in healthy animals, horses, pigs, beeves, mice, rats, guinea-pigs, rabbits and dogs. The bacteria of the paratyphoid group possess an elective action on the digestive tract even when they do not enter the body by the mouth, and further the faculty of inducing septicemia, penetrating into all the organs, glands and muscles and setting up catarrhal, hemorrhagic and suppurative, necrotic processes. He adds that Sanarelli's yellow fever *Bacillus icteroides* is a paratyphoid bacillus; bacteria of this group have been found in the blood in scarlet fever, measles, malaria, tuberculosis, pneumonia, tonsillitis, meningitis and typhoid and a long list of local processes. It is probable that they may change from a saprophytic to a pathogenic existence if the body becomes weakened by any general or local infection.

68. **Traumatic Origin of Fat Embolism.**—Bergemann ascribes fat embolism to the crushing of the bone tissue forcing fat into the veins in the bones. His clinical experience indicates the importance of refraining from crushing the bone in operations.

69. **Cosmetic Treatment of Facial Paralysis.**—Momburg has treated 5 patients with disfigurement from facial paralysis by carrying a wire loop from the malar bone to the corner of the mouth, through the soft parts of the cheek. By this means it is possible to draw the mouth up and improve the aspect remarkably. He has modified Busch's original technic by passing the wire around the malar bone and giving the loop a broader hold at the mouth. He prefers to operate under the first whiffs of ether. The article is illustrated showing the patients before and after, and the bayonet-shaped needle which passes readily through the cheek tissue.

72. **Transplantation of Ovary.**—Kayser was obliged to remove a tubo-ovarian cyst four years after the other ovary had been removed. As part of the ovary at the last operation seemed to be normal, he transplanted two wedge-shaped pieces in the thigh. The patient was a woman of 32 and menstruation apparently continued while there were no symptoms at any time of the artificial menopause. The menstrual hemorrhage is a little more profuse than formerly, and the intervals irregular. He reviews the experiences of others in this line and declares that transplantation of ovarian tissue must now be regarded as fully established on a broad physiologic basis as a means to preserve women from the severe injuries following the loss of the internal function of the ovaries.

74. **Brain Syphilis in the Secondary Stage.**—Löhe gives the details of two cases of cerebral disturbances, in the first, coming on only three months after syphilitic infection, receiving prompt and energetic mercurial treatment but proving rapidly fatal from arterial disease and incipient meningitis. In the second case initial sclerosis and hemiplegia were noted only twenty-four days after infection, but they yielded to calomel. Both patients were robust soldiers of 28 and 31. The cerebrospinal fluid in each case gave a negative Wassermann reaction, while the serum was strongly positive.

76. **Transillumination of the Eye.**—Langenhan has been applying Hertzell's method of transillumination of the fundus from the throat outward, and found it very useful for the early diagnosis of intraocular tumors of the rear segment of the eyeball. It is especially valuable for differentiating such from serous accumulations under the retina.

77. **Ocular Migraine and Frontal Sinusitis.**—In the case described by Oertel there was a chronic catarrhal inflammation of the right frontal sinus entailing periodical attacks of intense migraine, as the secretions accumulated and compressed the nerve terminals in the orbit. Notwithstanding the long duration of the sinusitis there was no pus. The case teaches the importance of examination of the nose and sinuses even with purely functional affections of the eye.

Deutsche medizinische Wochenschrift, Berlin

June 23, XXXVI, No. 25, pp. 1161-1208

83 *Surgical Treatment of Lupus. E. Lang.
84 *Finsen Treatment of Lupus. F. Zinsser.
85 *Radium Treatment of Lupus. P. Wichmann.
86 *Treatment of Lupus by Other Methods. E. Gottschalk.
87 *Perforation of Gastric Ulcer. (Ueber Ulcus ventriculi perforatum.) K. Heinemann.
88 Inflammatory Pseudocarcinoma of the Appendix. (Die entzündlichen Pseudo-Karzinome des Wurmfortsatzes.) R. Milner.
89 Size of the Heart in Various Diseases. (Herzgrösse bei verschiedenen Krankheiten.) S. Wideröe.
90 *Association of Diabetes with Constitutional Asthenia. (Zusammentreffen von Diabetes mellitus mit asthenischer Kon-[illegible]
91 *Ey[illegible] Ethmoidal Sinusitis. [illegible] der Stirnhöhle und [illegible]

83 to 86. **Treatment of Lupus.**—This number of the *Wochenschrift* gives an oversight of the status of treatment of lupus to date, surgical treatment, Finsen, radium and other methods of treatment being described by experts with long experience in their several lines, as presented at the recent lupus conference at Berlin. The discussions that followed the various papers are also given in full. A combination of the various methods was advocated for many cases, and fine results were reported in many instances, not only from the well-equipped clinics for surgical and Finsen treatment, but also by the dermatologist, especially when he had called on a laryngologist and rhinologist to take charge of the affected mucosa. Veiel reported a case in which such associated treatment resulted in the complete cure of lupus involving the entire face, nose, palate and larynx. The cosmetic results are better, he declared, the longer the wound takes to heal. He makes much use of pyrogallol, believing that the results with it are second only to those of Finsen treatment. Several

reported that the lupus had continued to progress under Roentgen rays and that their experience compelled them to advocate treatment on surgical principles from the start. König declared that the excision is usually not radical enough—many patients with extensive lupus tell of having the first lesion excised in early childhood. It is astonishing, he adds, to what a depth the lupous tissue can penetrate. Doutrelepont has obtained good results with the method devised by Payr, described in THE JOURNAL, Nov. 13, 1909, page 1701. The lupous patch is undermined and iodoform gauze drawn through underneath the bridge flap thus made. Fabry and others always precede pyrogallol treatment with energetic curetting. The experience of Lang of Vienna includes 441 lupus patients treated by radical excision of a total of 745 foci, including 250 on the face. Of the 308 patients traced to date, the cure has been permanent in 276, the interval ranging from one to sixteen years. He urges the dermatologist to train himself to be his own surgeon for lupus. As the overwhelming majority of his patients needed but a single operation, the expense and time required cannot be compared with those of radiotherapy.

87. **Perforation of Gastric Ulcer.**—The diagnosis is generally easy but the question as to when and how to operate is still open to discussion, Heinemann remarks. He thinks that cautious lavage of the stomach as a preliminary to operating can do no harm while it may afford useful information as to the site and extent of the opening. Fully 60 per cent. of the patients with perforation of a gastric ulcer are now saved; the results depend on the resisting powers as well as on the length of the interval before the operation. The gastric juice generally ensures that the stomach content is sterile, and consequently infection is not threatening. Shoemaker's patient recovered although seven days had elapsed before operative treatment and general peritonitis had developed. Heinemann found the stomach content still sterile two weeks after its removal after a test breakfast, although it had been kept in the incubator all that time.

90. **Coincidence of Diabetes with Universal Asthenia.**—Graul states that in a total of 170 diabetics he has encountered only 4 presenting the constitutional anomaly which Stiller calls asthenia universalis. These 4 patients were from 18 to 40 years old, and the diabetes was evidently of nervous origin; an inherited predisposition to diabetes was manifest in each case. The cases were further distinguished by the fact that the syndrome remained mild, no tendency to a progressive course being evident in any instance during the five years and more that the patients have been in his charge. The universal asthenia seems rather to increase the tendency to nervous diabetes, but at the same time it seems to keep the diabetes in a milder form than is generally the case in the young.

91. **Eye Symptoms with Sinusitis.**—Gutmann reports some cases to show the ocular symptoms liable to be encountered with frontal, sphenoidal and ethmoidal sinusitis before and after operative treatment. The danger of involvement of the optic nerve is especially imminent with ethmoidal empyema. In a number of cases on record central scotoma was an early symptom of ethmoidal sinusitis, encroaching on the eyeball, although in some instances the sinus contained only polypous growths and no pus. Their prompt removal saved vision in some cases but the operation came too late in one of the personal cases reported.

Jahrbuch für Kinderheilkunde, Berlin

June, LXXI, No. 6, pp. 655-804

92 Importance of Reduction of Whey in Infant Feeding. (Bedeutung der Molkenreduktion für die Ernährung junger Säuglinge.) H. Helbich.
93 Raw Milk in Infant Feeding. (Zur Frage der Rohmilchernährung.) K. Bamberg.
94 *"Albumin Milk" in Infant Feeding. (Ueber "Eiweissmilch.") H. Finkelstein and L. F. Meyer.
95 Three Cretins in a Vienna Family. R. Eller. Commenced in No. 5.

94. **Sugar-Poor Mixture for Infant Feeding.**—*This is the* continuation of the article reviewed in these columns July 2, page 93. The experiences with the new "albumin milk" with 144 infants are here summarized in detail, with especial regard to pathologic conditions in the children. [illegible]

Medizinische Klinik, Berlin

June 19, VI, No. 25, pp. 967-1006

96 System of Examining the Sensory Functions. (Zur Methodik [illegible]) T. Ziehen.
97 *[illegible] to Prevent Disturbances [illegible] Operations. (Herzstörungen durch Reizung des Perikards.) M. Heitler.
98 *Spontaneous Hemorrhage into the Bed of the Kidney. (Spontanblutungen in das Nierenlager.) P. Pick.
99 *Tincture of Iodin Sterilization of the Skin.* (Zur Jodtinkturdesinfektion nach Grossich.) W. Kausch.
100 Metastatic Gonorrheal Conjunctivitis. H. Davids.
101 *Chronic Chorea. Kuckro.
102 Contact with Gonococci not Necessarily Followed by Infection. (Zur Frage der Kupierung der Gonorrhoe.) Hellig.
103 Nitrites in Relation to Cause of Cholera. (Bedeutung der Nitrite, der salpetrigen Säure und des Stickoxyds bei Cholera indica.) R. Emmerich and V. R. Stühlern.

June 26, No. 26, pp. 1007-1042 and Supplement

104 *The Psychic Epidemic now Prevailing Among Physicians. (Eine [illegible] Aerzten.) A. Hoche.
105 *Nystagm[illegible]
106 Extraperi[illegible] Zur Indikationsstellung und T[illegible] Kaiserschnittes.) A. Strempel.
107 Pathogenesis of Febrile Visceral Syphilis. O. Hermann.
108 Pathologic Fixation or Displacement of Abdominal Organs and Roentgen Diagnosis. C. B. Schürmayer.
109 Treatment of Nervous Impotency. E. Kantorowicz.
110 Prophylactic Appendicectomy. [illegible] gynäkologischen Laparatomien.
111 Functional Tests of the Pancre[illegible] des Pankreas.) A. Staniek.
112 Appendicitis. (Aktuelle Fragen aus dem Gebiet der Appendizitislehre.) A. Ebner.

97. **Cocain to Prevent Irritation of the Pericardium During Operations.**—Heitler suggests the possibility of keeping the heart action regular by local application of a 10 per cent. solution of cocain during operations involving the pericardium. He bases this suggestion on the experiences with dogs, the pericardium showing itself extremely sensitive to the slightest touch, while under the influence of cocain the heart rhythm persisted regular throughout.

98. **Spontaneous Hemorrhage into the Bed of the Kidney.**—Pick adds another to the few cases on record of spontaneous pararenal hemorrhage. His patient was a woman of 53 who eight years before had had gall-stone colic. She was suddenly seized with violent pains in the right abdomen, with other signs of cholelithiasis. Only during the operation was it discovered that the trouble was a retroperitoneal hematoma in the bed of the kidney. Differentiation is difficult and the prognosis unfavorable without prompt surgical treatment, which proved successful in his case.

101. **Chronic Chorea.**—The positive Babinski on the left side and the fact that a brother of the youth affected had chorea minor, suggested to Kuckro an organic basis for the chronic chorea in the first case reported. There were occasional normal intervals but the recurrences were so numerous and frequent that the case may be styled chronic. In a second case right hemichorea developed three years after an attack of apoplexy in a man of 64. In a third case the chorea developed suddenly and persisted uninterrupted to date, that is, for 47 years. There must have been some poliomyelitic lesion responsible for the chorea in this case. In two other cases of chronic chorea without inherited predisposition, a man of 42 developed the chorea which has persisted for 20 years, while in the other case the chorea came on at 42 and persisted for over three years to date. In this case there were signs of chronic lead poisoning.

104. **A Psychic Epidemic Among Physicians.**—Hoche thus refers to the present vogue of Freud's conceptions as to the "sexual neuroses," a large number of nervous and psychic disturbances being ascribed by Freud to conscious or subconscious influences in the sexual sphere during the preceding years or childhood. (An abstract bearing on this subject was published in THE JOURNAL, July 17, 1909, page 244.)

105. **Nystagmus.**—After discussing nystagmus in general and its interpretation, Bernheimer reports a case in which it was evidently, he thinks, of purely cortical origin, elicited by psychic influences. The eyes functioned normally, vision was normal and yet covering one of the eyes was followed at once by horizontal nystagmus in both eyes, which continued until the patient could see again with both eyes. There was some tendency to neurasthenia but the patient, a waiter, 28 years old, was otherwise apparently healthy.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

June, XXXI, No. 6, pp. 687-808

113 *Treatment of Contracted Pelvis. (Zur Therapie des engen Beckens.) K. Menge.
114 Experiences with Contracted Pelvis at Prague and Giessen. O. v. Franqué.
115 *Insufficiency, Atony and Hyperplasia of the Uterus and Uterine Hemorrhage. A. Theilhaber.
116 Importance of Lecithin for Differentiating Various Species of Hemolytic Streptococci. E. Sachs.

113. **Treatment of Contracted Pelvis.**—Menge comments on the revolution that has taken place since the dawn of the new surgical era in obstetrics, the amazing result having proved to be that now far more births occur by the spontaneous forces of Nature than before. As the obstetrician knows that he has the choice of several operative methods for delivering the woman at any moment, he now placidly waits until Nature has done all that she possibly can before he attempts to interfere. And he finds that she is able to accomplish far more than he used to suppose her capable of. There is no danger now of letting the proper moment for interference pass, as he used to dread when prophylactic measures, version, etc., were his sole reliance. Menge consequently advises the general practitioner to send to some institution all parturients with a conjugata vera of 5.5 cm. or under, and also those with a diameter between 5.5 and 7.5 cm. if the child is still living. If the fetus is dead, he can manage the case himself. But for all pelves over 7.5 cm., he should manage the case on strictly aseptic conservative principles, and with cephalic presentation strive to realize a spontaneous natural delivery, which is generally attainable. If spontaneous delivery is impossible he advises sending the woman to an institution or even craniotomy of the living child. The latter is rarely necessary if Nature is given time to do her work.

115. **Insufficiency of the Uterus and Hemorrhage.**—Theilhaber emphasizes the importance of muscular contraction for the arrest of hemorrhage, regarding excessive uterine hemorrhage as often due to muscular insufficiency of this organ. Not only anatomic but also functional disturbances in the uterine musculature may be responsible for the continuance of hemorrhage. An atonic uterus is not always insufficient, but insufficiency of the uterine musculature is usually a consequence of atony, although it may be due to other causes. The insufficiency becomes manifest when there is a lack of proportion between the blood content of the uterus and the development of its muscle. In 62 cases of uterine hemorrhage under the age of 19, he found the uterus unusually small in 58; in only 4 was it of normal size. Excessive hyperemia in an insufficient musculature is liable to entail hemorrhage from it, and sexual excitement, maintaining the hyperemia in the uterus, is an important factor in uterine hemorrhage. He adds that masturbation is extraordinarily prevalent among women, especially in the years of greatest development, but also later. The uterus accommodates itself poorly to frequent sexual excitement. In a typical case a widow of 46 had sacral pains, evidently rheumatic; the uterus was large and hyperplastic, menses normal. A year later she returned for relief from violent uterine hemorrhages. She acknowledged that she had an "affinity" and had been inclined herself to ascribe the hemorrhages to her liaison. Meat and alcohol are liable to induce congestion in the uterus and thus entail hemorrhage; abstinence from both has sometimes aided in the cure of long persisting uterine hemorrhage, in his experience, especially among girls. He thinks that the assumption of a hyperemia in excess of what the musculature can take care of amply explains uterine hemorrhage in many cases.

Münchener medizinische Wochenschrift

June 21, LVII, No. 25, pp. 1321-1376

117 *Present Status of Operative Treatment of Ear Disease. (Der gegenwärtige Stand der Otochirurgie.) B. Heine.
118 Pantopon. H. Sahli.
119 Means to Influence the Breathing Capacity. (Die Beeinflussung der Mittellage der Lunge bei Gesunden.) J. Forschbach and A Bittorf.
120 Tuberculin Immunity. (Ueber Tuberkulinimmunität.) F. Hamburger and R. Monti
121 *Diagnosis of Large Retroplacental Hematoma. A. Mayer.
122 Route of Infection and Course of Pneumococcus Meningitis. J. Grober.
123 *Tuberculosis and Lactation. (Tuberkulose und Stillen.) A. Deutsch.
124 Lactation Among African Natives. (Zur Frage der Stillfähigkeit.) Fock.
125 Enrichment Medium for Tubercle Bacilli. (Zu dem Zahnschen Anreicherungsverfahren für Tuberkelbazillen.) P. Mende.
126 Swallowed Foreign Bodies in Hernia. (Fremdkörper im Bruchdarm als Ursache schwerer Komplikationen.) E. Fabian.
127 Double Tubal Pregnancy. (Doppelseitige Tubarschwangerschaft.) F. Süssmann.

117. **Management of Otitis Media.**—This dissertation is addressed to the general practitioner and among the points emphasized by Heine is the necessity for being on one's guard against complications after the drum membrane has perforated and the patient feels no further inconveniences beyond the persisting suppuration and the deafness. These cases with no external manifestations are insidiously dangerous, and persons over 40 seem to be most predisposed to this form. Among the 63 fatal cases of uncomplicated suppurative meningitis at the Berlin ear clinic, 31 were due to acute and 32 to chronic otitis media. Twelve of the chronic cases were in patients between 11 and 20, while 16 of the fatal acute cases were in persons over 40. This age should therefore suggest extra caution, and he urges the mastoid operation systematically when the suppuration has persisted for 6 or 8 weeks, even when there are no serious symptoms, especially for persons over 40. In the young the mastoid process is less compact, and it does not offer such resistance to the penetration of the pus. In other cases there may be no symptoms, but the experienced eye will note that the lumen of the auditory canal is growing smaller, the rear upper wall is sinking down, a sign of more pus in the antrum than can be voided through the opening in the membrane. The sinking of the wall is merely the swelling over a focus of periostitis. Operative treatment should be sought at once, as also when the suppuration increases and the canal fills up again at once after it has been cleaned out, showing that there must be some reservoir in the mastoid. Diabetics are particularly liable to profuse suppuration of this kind in consequence of rapid breaking down of the bone, although there may not be the slightest pain. Facial paralysis is also a sign that speedy operation is required, as it shows that the nerve in its passage through the mastoid has become involved in the lesion. The Bier suction and constriction hyperemia method of treatment is too uncertain and may allow the proper moment for operation to slip past. Heine differentiates a lesion in the bone from one in the mucosa in the chronic cases by the aspect of the drum membrane; in the bone cases—which always indicate operative treatment, if suitable medical measures do not promptly cure—the perforation of the membrane is in the outer edge while with a mucosa suppuration it is central, always surrounded by membrane tissue, and this latter form does not require surgical treatment. If in the later course of an acute or with a chronic otitis media in an adult, the temperature goes up and no other source for this can be discovered, this indicates either meningitis or pyemia as a rule. Serous meningitis generally retrogresses after the mastoid lesion has been evacuated, and repeated lumbar puncture may benefit. If meningitis can be excluded, the transverse sinus should be exposed its entire length. If found bathed in pus and if the fever has not been of long duration, this may be enough in itself; otherwise the sinus should be opened and the thrombus removed. He adds that Pitt found that 1 death in each 158 at a London hospital was the result of middle ear disease; Gruber, 1 in 173 at Vienna, and his own experience has been 1 in 154; that is, 70 deaths for which otitis media was responsible out of 10,830 autopsies. At the Berlin ear clinic, in 22 years there have been 118 cases of *otitic pyemia*, 77 of uncomplicated suppurative meningitis and 51 brain abscesses. Only 21.4 per cent. of his own series of 40 patients with brain abscesses recovered, mostly already complicated with sinus thrombosis or suppurative meningitis; 50 per cent. of his patients with sinus thrombosis were saved by the operation.

121. **Diagnosis of Large Retroplacental Hematoma.**—Mayer refers to the cases in which there is no external hemorrhage, but vigorous and painful labor contractions continue after the birth of the child; the uterus feels large and hard, even taut. Suddenly the patient complains of nausea, the radial pulse grows almost imperceptible and the uterus is felt growing larger. All the blood escaping has accumulated behind the

157 *Pathologic Anatomy of Severe Anemia with Enlargement of the Spleen. (Sulle anemie gravi con splenomegalia.) N. Pende.
158 Improved Technic for the Romanowski Staining Method. (Ricerche sulla colorazione di Romanowski e metodo rapido ottenerla.) A. Petacci.

June, No. 6, Surgical Section, pp. 241-288

159 Congenital Cystic Lymphangioma of the Neck. (Linfoangioma cistico congenito del collo.) R. Stefano. Commenced in No. 5.
160 *Early Operative Treatment of Tuberculous Osteitis of the Spine. (L'intervento precoce nell'osteite tubercolare della colonna vertebrale.) P. Sabella.
161 The Physiologic and Anatomic Relations Between Rats in Parabiosis. L. C. Zapelloni.

154 **Origin of Pellagra.**—Among the arguments presented by Alessandrini to sustain his theory of the cause of pellagra are that the seashore and mountainous regions are exempt, and that the disease ceases to spread when artesian wells are installed to take the place of shallow wells and surface drinking water. In the Gualdo Tadino district the endemic zone is distinctly separated from the immune territory by the course of two streams, but the number of cases is no larger close to the streams than elsewhere throughout the endemic zone.

157. **Anemia with Enlargement of the Spleen.**—Pende presents clinical data to sustain his view that there is no special affection that can be called splenic anemia; there may be a primary anemia accompanied by a primary splenomegaly. The anemia may be of the Banti, the Biermer periodical or pernicious progressive type, or of the leucoanemia type, or the Cardarelli type of infantile splenic anemia, while the spleen may present varying lesions with each of these types. The character of the anemia and of the splenomegaly may differ in each individual case.

160. **Early Operative Treatment of Tuberculous Lesions in the Spine.**—Sabella reports excellent results from laminectomy and resection of the diseased spinous process in a man of 47 with six healthy children. For six or seven years he had noticed occasional pains in the lumbar region and then they became so intense that he was confined to bed. Tuberculin tests were negative or dubious and no benefit was derived from medical measures, but the operation relieved him at once from the pain and insufficiency of the sphincters which had developed from compression. The cure has been complete for the six months since. The tuberculous process was restricted to a single spinous process.

Ugeskrift for Læger, Copenhagen

June 9, LXXII, No. 23, pp. 661-702

162 *Malignant Granulomatosis. V. Scheel and V. Ellermann.

June 16, No. 24, pp. 703-730

163 Occupation as Aid in Sanatorium Treatment of the Tuberculous. (Arbeidsterapi som Led i Sanatoriebehandlingen.) K. Lundh.

June 23, No. 25, pp. 731-764

164 *Disturbances of the Singing Voice and Their Causes. (Forstyrrelser af Sangstemmen med særligt Hensyn til deres Aarsager.) H. Mygind.

162. **Hodgkin's Disease.**—Scheel reports the clinical history and autopsy findings in two cases resembling Sternberg's "peculiar form of tuberculosis of the lymphatic apparatus." Ellermann follows with a second case and the case recently reported by Lichtenstein in *Hygiea* (May, 1910), is compared with them. Scheel's patients were two women of 23 and 57, the others were men. The high, frequently remittent fever and the usual polynuclear leucocytosis distinguish this syndrome, Scheel says, from ordinary pseudoleukemia, which it otherwise so closely resembles. The characteristic granuloma tissue was found in all the cases, but his first patient had no lymphatic enlargement, the granulomatosis being confined to the spleen, bone marrow and liver, and there was nothing to suggest tuberculosis; the Pirquet tuberculin test was negative and the disease ran an acute, rapidly fatal course. The number of megaloblasts suggested pernicious anemia. He states that no benefit has been derived from arsenic in these cases of malignant granulomatosis, or from the Roentgen rays in the one case in which they were applied, but that Roentgen treatment deserves further trials. Ellermann's patient was a robust man with symptoms of what was supposed to be pseudoleukemia, fatal after two years. No signs of tuberculosis were found at autopsy but guinea-pigs inoculated with granulomatous tissue from the spleen died, too soon for any conclusions as to tuberculosis. Lichtenstein's patient presented both the Sternberg syndrome and tuberculosis in various organs. Animals inoculated developed granulomas, and his further research seems to demonstrate that attenuated tubercle bacilli are able to induce the production of the granulomatous lesions without tubercle formation. He found the typical granuloma tissue in 14 out of 45 guinea-pigs inoculated with attenuated tubercle bacilli.

164. **Vocal Disturbances Affecting Singers.**—Mygind comments on the feverish haste with which possessors of a singing voice seek to train it so that they can win the laurels and emoluments of the upper circle of vocalists, while the effects of this haste keep them back. Another obstacle to their progress, he says, is that teachers often strive to force every voice to conform to their special method instead of adapting the method to the voice. As a typical case he cites that of a young woman with a light mezzo soprano whose teacher trained her voice constantly higher, with the result that there was hoarseness over the entire register and a catarrhal secretion; the patient lived in the usual environment of the poor student coming to a large city to cultivate her voice. The congested throat was relieved by local treatment but on resuming the singing lessons the condition grew worse again and the young woman had to give up singing entirely. He has had 250 patients among singers, all women but 58; all types of voices were represented in the series, but the higher registers much predominated. Chlorosis was evident in 40 per cent. of the women, and he regards this as a very important indirect factor in the development of vocal disturbances, while the most important direct factor is overuse and forcing of the voice. He discusses the various forms of local disturbances and lesions as he has encountered them, but does not refer to treatment more than to warn against injuring the delicate mechanism of the vocal chords by injudicious local measures. General treatment of the indirect causes is most important and this alone may cure the local lesions. Robust health and sound nervous system are almost the *sine qua non* for a first-class voice—the phenomenal singers are or have been nearly all of this type, and vocal students should not forget this. He urges them to take for their motto Goethe's words, *Ohne Hast aber ohne Rast*, "Without haste but without rest." which Sir Morell Mackenzie has also striven to impress on would-be vocalists.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

Index-Catalogue of Medical and Veterinary Zoology. Part 26. (Authors: S. to Schnyder. Pp. 95.) *Part 27.* (Authors: Schoch to Silvestrini. Pp. 91.) By Ch. Wardell Stiles, Ph.D., Consulting Zoologist, Bureau of Animal Industry and Albert Hassall, M.R.C.V.S., Asistant in Zoology, Bureau of Animal Industry. U. S. Department of Agriculture. Bureau of Animal Industry. Bulletin No. 39. Paper. Pp. 2168. of entire work so far issued. Washington: Government Printing Office, 1910.

Transactions of the American Dermatological Association. At Its Thirty-third Annual Meeting, he[illegible] June 3, 4 and 5, 1909. Official Report of the [illegible] W. Wende, M.D., Secretary, 471 Delaware Ave., Buffalo, N. Y. Paper. Pp. 289, with illustrations.

Handbook for the International Prison Congress, *Oct.* 2-8, 1910, and the American Prison Association, Sept. 29-Oct. 8, 1910. Washington, D. C. Paper. Pp. 52. Publicity Agent, Mr. O. F. Lewis, 135 East Fifteenth Street, New York.

Précis du Traitement des Fractures par le Massage et la Mobilisation. Par Dr. Just Lucas-Championnière, Chirurgien Honoraire de l'Hôtel-Dieu. Paper. Price, 3.50 francs. Pp. 267. Paris: G. Steinheil, 2 rue Casimir-Delavigne, 1910.

Monographs on Medical and Allied Subjects. *Published by the Rockefeller Institute for Medical Research.* No. 1. Issued June 30, 1910. Paper. Pp. 130, with illustrations. New York: 66th St. and Ave. A, 1910.

Fortschritte der Naturwissenschaftlichen Forschung. Von Dr. E. Abderhalden, Berlin. Volume I. Paper. Price, 10 marks. Pp. 306, with 47 illustrations. Vienna: Urban & Schwarzenberg, 1910.

The Development of Public Charities and Correction in the State of Indiana. Paper. Pp. 132, with illustrations. Indianapolis: Board of State Charities, State House, *1792-1910.*

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THE SURGICAL CONSIDERATION OF CONGENITAL AND DEVELOPMENTAL DEFECTS LEADING TO OBSTINATE CONSTIPATION *

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To arrive properly at a basis for the study of constipation and tympanitis, with their coincident autointoxication, one must start well back of the condition of disability and investigate the various embryologic, anatomic, and physiologic factors which may ultimately promote the train of pathologic symptoms.

Probably no condition is more lightly viewed by physicians in general than constipation, possibly because it is so common, and possibly, also, because in many instances it is more or less easily set aside by laxatives. Unless, therefore, this symptom becomes so exaggerated as to suggest a possible obstruction, it is usually viewed with professional equanimity. There is a growing tendency to look on the various laboratories of the human body as the generating ground, not only of physiologic, but under abnormal conditions of various pathologic products, in one instance beneficent, in the other very deleterious to health. The thyroid has already taken its place as the emanating source of various toxic principles, likewise the adrenals, the tonsils, etc. From that vast group of individuals who are designated neurasthenics have been culled certain groups which may be traced to these sources. Of late years the gastro-intestinal tract has been found to be a prolific source of neurasthenic symptoms, and such radical enthusiasts as Metchnikoff would have us believe that the colon, because of these noxious emanations, is a worse than useless reservoir, and following this train of thought Arbuthnott Lane advises the extirpation of this organ in chronic constipation and claims brilliant results from the operation. Between all radical negative and positive viewpoints of a theoretical nature there is usually a happy midway position; to ignore the colon as a source of trouble would be heresy, for it is self-evident that fecal stasis is a source of serious autointoxication. On the other hand, as we better understand this question, the total excisions of the colon would appear too radical, for Cannon's work indicates beyond question that the large intestine has a very important function in the absorption of residual food products passed on from the small intestine. It is therefore not a temporary reservoir but a very important food receptacle from which much nutrition is abstracted.

COMPARATIVE ANATOMY

There is no organ in the body with such diversity of morphology to suit variations in function in different species of animals as the intestinal tract. The stomach actively participates in the mixing and digestion of certain portions of foods; the small intestine, beginning with the duodenum, further elaborates the process, and from that point on not only digestion but active absorption is taking place. The physical life of the animal, bird or reptile, and the character of food which it ingests, appear to determine the morphology of the small and large intestine. Thus, as stated by Huntington, in such creatures as birds which make long flights, requiring not only sustained effort but incredible repetitions of dynamic explosions, the food must be rapidly absorbed, and there is no place for residual food from which slow abstraction of nutrition occurs. For instance, the canvasback duck has relatively a very long small intestine and a very short colon, almost of a cloacal type. On the contrary, the ostrich, which is slower of movement and feeds on a more bulky food, has a very long colon. The wide variation in animals is noted in such birds of prey as, for instance, the eagle; the length of the colon as compared with the small intestine is only 1 to 68 or 70, while in the cassowary, a species of ostrich, it is 1 to 6, or practically more than ten times as long. In animals which have long resting periods with only occasional demands for great rapidity and sustained effort, the colon is usually very capacious, in some species becoming an enormous reservoir.

As the result of his splendid research in the comparative physiology of the large intestine, Huntington[1] says:

> While digestion of food substances will not be inaugurated in the large intestine, material already in the process of digestion and mixed with the intestinal juices of the preceding segment will be further elaborated in this portion of the canal and the nutritive products absorbed. This is especially the case in herbivora and omnivora, whose food is bulky, containing a large amount of refuse material and is hence only slowly digested. On the other hand the food of the carnivora is easily and rapidly digested and absorbed. After passing through the small intestine hardly any substances remain which are capable of digestion and absorption. Hence the large intestine of herbivora and omnivora is usually longer in proportion to the small intestine than it is in carnivorous animals. In the former this segment of the canal functions as an accessory digestive apparatus and hence often develop accessory structural modifications, such as a large cecum and spiral colon, while in the latter it acts almost solely as a canal for the evacuation of the indigestible remnants. Again, the large intestine is better developed in the higher animals, in mammalia and to a lesser degree in birds, in whom the functional demands for nutrition are active and require that a relatively large amount of food should pass through the digestive tract in a given time.

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* Chairman's address before the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

* For reasons of space, the article is slightly abbreviated by the omission of some of the case reports. The complete article appears in the Transactions of the Section and in the author's reprints.

[1] Anatomy of Peritoneum and Abdomen, p. 198.

Man occupies a midway position in colonic development. The human race is omnivorous, taking all classes of food. A good absorbing surface as represented by the 17 to 18 feet of small intestine is necessary, and at the same time a capacious colon for the retention of residual food products is likewise essential.

From this brief review of the comparative anatomy of the large bowel it is evident that in either the lower or higher animals it is not a useless, although it may be a dispensable, organ.

PHYSIOLOGY OF THE LARGE AND SMALL INTESTINE

The general principle of alimentary digestion may be defined as consisting of three phases; first, mixture of food with the digestive juices; second, the exposure of food to the absorbing mucous membrane, and, third, the propulsion of the food through the alimentary canal. The first takes place in the stomach and duodenum; the second in the small and a part of the large intestine. The rate of propulsion and fluid state of the food largely determine the amount of absorption. Food in transit from the stomach to the anus usually requires 24 to 36 hours, only 6 to 8 of which are occupied by the small, and the remainder by the large intestine.

As a broad proposition, therefore, one may say that the mechanical causes of constipation exist in the large and not in the small intestine. In the small bowel the food is fluid, and therefore is easily propelled along this 18 feet of flexible tubing. When, however, it reaches the large intestine in a mushy or semi-fluid state, slower inspissation takes place through the assimilation of the last remains of the nutritious portion of the food. This process must necessarily be slower, for the minimum part of the nutriment with a maximum of residue is emptied from the ileum into the cecum.

Cannon has shown in his splendid series of investigations on the physiology of digestion that the small intestine is much more actively engaged in the segregation or segmentation of food than in its mere propulsion from one end to the other. He has shown that there are two types of motility, one given over to the segmentation of food in short blocks in the small intestine, thus giving sufficient time for thorough digestion as well as absorption. During this process the mucous membrane, with its large absorbing valvulæ conniventes, is thrust into the food mass, thus exposing its maximum surface to absorption. The second movement is peristaltic, slowly carrying the food from one block to another downward toward the cecum.

From this brief reference to intestinal digestion it is evident that the small bowel plays very little if any part in mechanical constipation. That the diminution or absence of certain intestinal juices in the food may lead to constipation of a more or less functional character is unquestioned, but this does not as a rule account for the progressive constipation, starting in infancy or adolescence and terminating in symptoms closely related to or actually terminating in partial obstruction. It is to this class of cases that we are giving our attention, and it is this type which is largely ascribable to mechanical faults of congenital and developmental character.

EMBRYOLOGIC CONSIDERATIONS

To understand properly the progressive constipation of adults we must recur to the development of the intestinal tract. We cannot study this complicated mechanical process without arriving at the conclusion that here lies the chief cause of the defects or, as very clearly summarized by my associate, Dr. Floyd Keene, "The potential factors are present in early life and later become active as the result of habit, physiologic sluggishness or mechanical defects, especially developing in women from defective child-bearing process."

The gastrointestinal canal consists* primarily of a straight tube closely attached to the primitive posterior abdominal wall. Very early a portion of the upper segment shows a bulging posteriorly and a concavity anteriorly, corresponding to the greater and lesser curvatures, respectively, of the stomach. As the result of the increasing volume of the liver and increased length of the stomach segment there is a rotation to the right, so that what was originally the left side has become the anterior surface and the right side the posterior surface of the fully developed stomach. At first there is no line of demarcation between the stomach and duodenum. According to Tandler there is a great increase in the epithelium of the duodenum during the second month, so that the lumen may be greatly narrowed or even completely obliterated. This probably explains some cases of congenital stenosis. During the third month the lumen is restored by an increase in the diameter of the gut.

Early in fetal life the size of the liver is out of all proportion to that of the abdominal cavity. Consequently the rapidly increasing length of the intestine demands more room for its development. In order to find space it passes out of the abdominal cavity through the wide open umbilicus, where it continues to remain for some time. As the result of this migration an anteroposterior U loop is formed, consisting of a proximal descending and a distal ascending limb. During this process the mesentery has naturally become lengthened, and even at an early age shows the blood vessels found in adult life. The superior mesenteric artery courses between the limbs of the U loop; the inferior mesenteric supplies the posterior and lower segments.

As the limbs of the extra-abdominal loops increase in length they approach one another, and later an axial rotation of the loops takes place so that the lower limb passes over the upper. It is from this lower or distal limb that the colon develops; hence, this explains why the upper portion of the small intestine lies beneath the superior mesenteric artery. While both limbs increase in length, this takes place far more rapidly in that portion which is to become the small intestine, viz., the original upper limb. Mall has demonstrated that, while the intestine lies extra-abdominally, the small gut arranges itself into six primary coils which in their further growth become more complex but nevertheless can be definitely outlined in the adult.

As the result of the axial rotation referred to, the small intestine assumes a position below and to the left of the large intestine, which is now inverted U shape, and extends antero-posterior to the midline of the posterior abdominal wall. Later there is a rapid increase in the size of the abdominal cavity which permits the intestines to reenter. According to Mall the upper portion of the small intestine first assumes its position in the left hypochondriac region, to be followed by the remainder of the small intestine and colon, the cecum returning last. The coils which were primarily arranged vertically now assume a transverse position.

In early fetal life the cecum develops as a small bud at the beginning of the ascending limb. The appendix at first comes from its tip, like the handle of a funnel, but as the result of unequal growth of the anterior and right walls the appendix is thrown posteriorly and to the left. On reentering the abdomen the colon retains its inverted U shape, but the upper limb of the U is pushed transversely by the underlying small intestines below and the liver and stomach above, the cecum lying beneath the liver. The colon continues to grow after birth, and with this growth there is a migration of the cecum downward into the right iliac fossa, with the formation of the ascending colon. This does not take place completely until some time after birth. At birth the sigmoid forms a large portion of the colon (one-half, according to Piersol) and is an intra-abdominal organ, and the adult proportions do not exist until the third year of life.

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* Summarized from Peirsol's "Anatomy" and Quain's "Embryology."

As the result of peritoneal fusion the ascending and descending colons are deprived of a distinct mesentery.

GENESIS OF ENTEROPTOSIS AND CHRONIC CONSTIPATION

As the result of Dr. Keene's finding in autopsies on babies ample evidence in favor of the congenital origin of enteroptosis is discovered. Theoretically the sequence of events is as follows: During youth and early adult life the intra-abdominal pressure is perfectly maintained by the tonicity of the abdominal musculature. A potential or latent enteroptosis may be present, but is not symptomatic because the redundant colon is held in such a position that the lumen is not interfered with. That such a redundancy exists has been shown in several autopsies on babies where, for example, in several instances the transverse colon was plicated on itself in order to find sufficient room for its development. It might be thought that the increase in size of the abdominal cavity would permit of an unfolding and straightening of the intestines, but this is not probable because the increase in size is not sufficient, since these colons are sometimes enormous when compared with the general development of other organs, and, secondly, the colon continues to increase in length after birth. The theory that the transverse colon will be straightened in the further developmental cycle by the descensus of the cecum and formation of ascending colon is not tenable, for in several of our observations redundant transverse colon was coincident with complete descensus of cecum.

Given such a case, an actual symptomatic enteroptosis replaces the potential or latent enteroptosis when one or more of the following factors come into play: As the result of childbirth or wasting disease the tonicity of the abdominal musculature is replaced by a hypotonicity, with consequent diminution of the intra-abdominal pressure, permitting a sagging of the intestine with the formation of kinks at the junction of the movable and fixed portions. While faulty posture, as pointed out by Goldthwaite, may have the same effect, in addition to the removal of the normal buttresses of the abdominal organs, as cited by Martin, we are inclined to the view that posture and the characteristic body form of some of these individuals may be the direct result of faulty nutrition in infancy and childhood, and are therefore a resultant and not a cause of the enteroptosis. Congenital and acquired adhesions and kinking must also play a part. Fecal stasis should be looked on, not as the cause of these conditions, but as the result of them. No doubt the presence of a large fecal mass more or less constantly exercising its weight may exaggerate the disability.

Dr. Keene's autopsies have verified Treves' observations that the sigmoid at, and even several months after birth, forms a large part of the colon.

From this reference to the embryology with the autopsy findings in Dr. Keene's series of infants it is evident that from the very beginning abnormalities of formation and position of the large intestine may exist with coincident colonic sluggishness which early leads to constipation. It is interesting to note in this connection that the majority of exaggerated enteroptoses, and particularly those of colonic type, that the history of constipation is traced back to childhood days. In the light of these embryologic deviations, which are so frequently noted, we are not surprised to find constipation such a prevalent complaint in infancy and childhood.

Thus Coolidge[2] says:

> Relatively more patients are brought to us for treatment of constipation than for any other one disease. Babies of all ages and conditions whether breast-fed of bottle-fed seem to suffer equally from this condition. In a large per cent. of the cases we find the cause of constipation in the infant due to improper food which is taken by the baby itself or else by the mother, if the child is breast-fed. A few cases have a decided weakness of the rectal muscles, making it impossible for the baby to expel the feces even though the food is well digested and suited to the individual child. Constipation due to defective portal circulation and lack of bile secretion is one of the most difficult forms to treat in young infants; frequently this cannot be entirely overcome until the child is old enough to take solid food and systematic exercises.

Constipation, therefore, in infancy is a besetting symptom; its explanation, while largely theoretical, harks back to anatomical as well as functional defects. One may be relieved with careful medical and hygienic regulations; the other is not so easily overcome, as this persistent symptom in adults demonstrates.

Until the advent of the *x*-ray as a diagnostic agent in enteroptosis clinicians had made little progress over the original discovery of Glénard, for there was no accurate method of determining the organ or group of organs chiefly participating in the visceral descensus. This failure to recognize these conditions probably accounts for the widespread adoption a few years ago of nephrorrhaphy, a procedure which captivated many gynecologists and general surgeons. Those careful observers who followed the after course of their cases soon realized that this operation was far from a cure-all, and, indeed, as frequently performed on the more palpable indications of undue mobility, ended in lamentable symptomatic failure. We soon realized that many of these patients were persistent neurasthenics, and for a cause, but the kidney was but one part of that cause and usually a very small part.

It is a classical fact that the neurasthenic individual is of all other cases the worst for surgical intervention unless there is a well defined indication for its adoption. The participation of a movable kidney in the presence of other prolapsed viscera is therefore of small account in the general abdominal symptoms noted by Glénard. Failure to cure these cases has caused our attention to be centered in a more analytical manner on symptoms emanating from other organs of this group. The use of the *x*-ray has done much in segregating the stomach in one class of cases as the dominant source of symptoms and the colon in another class, and we now believe far the greater of the two. Also the *x*-ray has helped in differentiating between cases of redundant sigmoid and the transverse colon of exaggerated length and displaced and angulated flexures.

While great assistance has come from the use of the *x*-ray in this anatomic isolation of gastrointestinal segments, we have also learned that it is not the court of last resort in defining treatment. Clinical data and close observation of the symptomatology alone can do this. Exaggerated ptoses are not necessarily productive of profound symptoms. Time and time again we have observed cases with very deeply dependent transverse colons or with great redundancy of the sigmoid and moderately good or even perfect function maintained. Manifestly it would be a most injudicious procedure to disturb by a surgical operation such an intestine; on the other hand, a well defined history of increasing constipation extending back to babyhood, and at times approaching full obstruction, which has been uninfluenced by medical skill, should have surgical attention. I approach the discussion of the surgical treatment of these cases with trepidation, for I realize from my experience that unless most cautiously employed it will be hazardous, not so hazardous to the life of the patient as to the repute of surgery. On the other hand, experience also teaches that operative treatment holds happy possibilities if proper care is observed in the selection of cases.

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[2] Bull. Lying-in Hospital, New York.

I therefore preface my suggestions as to surgical intervention with this caution, for these patients are now in neutral ground between medicine and surgery. One class, much the larger, should remain within the medical domain, while the other must be transferred to the surgeon. An indiscriminate tendency to operation, however, will cast unjustifiable criticism on measures which may be most beneficial if properly selected. This is, I believe, the frontier line of surgery and should be developed by careful methods and by men of wide experience. It is not the field for a novice.

From our clinical study of these cases we now find greater possibilities of differentiating between those with dominant gastric symptoms or with major colonic symptoms. In many cases of exaggerated coloptosis the gastric function is normal because the stomach is little interfered with. On the other hand, in marked types of gastroptosis there may be no coloptosis.

This address has as its theme exaggerated constipation due to abnormalities of the colon, and I therefore pass over the question of gastroptosis.

ANATOMY OF THE COLON

One cannot take up this subject without harking back to Treves' classical lectures on "The Anatomy of the Intestinal Canal and Peritoneum."[3] This classical research not only lays down the groundwork of our present knowledge of the intestinal canal but forecasts in a few trenchant paragraphs the pathologic aspect of embryologic and developmental deviations.

In his consideration of the ascending, transverse, descending and sigmoidal portions of the colon, Treves centers many interesting observations on the individual portions. The mutual relations existing between the segments in the adult do not exist at birth, but only assume their morphologic associations some time after extrauterine life. Thus the hepatic flexure does not exist at birth and the cecum completes its descensus after this time. The colon, therefore, assumes in many instances a more or less oblique direction from the right iliac to the left splenic area without a hepatic flexure. Should the hepatic flexure lapse through faulty development, at once a weakened area in the colon develops, which may lead to ptosis of this portion of the gut. Such deviation, however, as we have frequently observed clinically does not necessarily lead to disabilities, for the colonic function under these conditions may be maintained unimpeded. The cecum may remain without descensus high in the right hypochondrium or even occupy a position under the liver. In other instances it may undergo exaggerated descensus, dropping well over the brim of the pelvis or even into Douglas' cul-de-sac. Unquestionably some exaggerated cases of the latter type not only give rise to chronic appendicitis but maintain cecal and ileac peristalsis with considerable pain, even after this organ is removed. A very flabby cecum falling into the pelvis may cause considerable disturbance in the discharge of alimentation from the ileum into the cecum. While these cases may be rare, we should not lose sight of this possibility, and in cases of exaggerated ceca they should be sutured back into the proper position. This procedure is both simple and safe and should not give untoward results. In a few cases in our own experience a happy relief has been afforded by this measure.

No portion of the colon is subjected to greater variations than the transverse; it is, indeed, so variable that we may even doubt whether there is a normal situation and length. Treves found that the transverse colon averaged about 20 inches in length, the shortest noted being 12 inches, the longest 33.

On drawing a thread transversely across the abdomen from the highest point of one iliac crest to the other he ascertained that in the majority of instances the inverted colic arch was above this line, while a fourth were below it.

One cannot note this observation without being irresistibly forced to the conclusion that this smaller percentage of cases cannot functionate properly, and that from this class a considerable number of defectives must be culled as typified by the neurasthenic of constipated habit. To draw the conclusion that Treves' thread defines a health zone above or a neurasthenic boundary below would be indeed a far cry, but we may not go false in our reasoning if we assume that some at least of these exaggerated cases must give us the slim-chested, long-waisted, peripatetic neurasthenic, drifting from one office to another, and finally exhausting all the modern pathies in the search for health. Such dependent colons must inevitably be sluggish in action, for they frequently have exaggerated hepatic and splenic kinks, which retard peristalsis, and thus a reservoir for deleterious fermentative products is established. When we assume that perfect alimentation is synonymous with ideal development we must logically follow the corollary: Imperfect alimentation will retard or lead to imperfect growth. If, therefore, we accept the theory which appears to be well based on embryological and developmental observations, that many cases of exaggerated constipation are of embryologic or early extrauterine origin, we are led to the inference that the so-called enteroptotic figure or faulty posture in these individuals arises from this defect rather than causes it. If this be true these patients can at best be only temporarily helped and not cured by orthopedic or gymnastic treatment. However, this is a digressive thought rather than a criticism, for no form of treatment should be left uninvestigated that may lead to the relief of these patients, for they are indeed miserable sufferers and form the list of undesirables in all medical offices.

Treves believes that these deviations in the colic arch are due to embryologic malformation and effects of persistent distention, for he found in these subjects that the dependent loop was overloaded and distended with fecal matter, and he anticipates our viewpoint when he says, "Such individuals have probably been the subjects of chronic constipation and have more or less constantly presented a distended state of the colon."

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[3] Brit. Med. Jour., 1880, i.

How easy, too, as we have so often observed clinically, for these same individuals to become martyrs to an otherwise beneficent surgical operation through adhesions binding in fixed position the previously very sluggish bowel. Thus under such operative sequelæ a chronic constipation may become an obstruction of varying severity.

The descending colon is subject to few variations, and these are of small pathologic significance. On the other hand, the sigmoid flexure is given to extensive variations. The infant with the large, redundant and dilated sigmoid, suffering with Hirschsprung's disease, in my opinion, is only an exaggerated predecessor of the obstinately constipated adult with a lesser degree of sigmoid redundancy and dilatation. The sigmoid flexure in the adult varies in length from 7 to 27 inches, the average being about 7½ inches. There can scarcely be said to be a normal length, the variations in the sigmoid being so great. As with the transverse colon, one cannot apply the tapeline or measuring stick to this organ to define what is functionally normal. We must consider these cases from the symptomatic standpoint in order to determine the degree of functional abnormality in relation to anatomic defects. Just as the tapeline will not give us a measure of pathologic function, so does the x-ray also fail. This entire question must not be considered from these viewpoints, for they will lead to gross errors of judgment, just as such serious errors have arisen in thus viewing movable kidneys.

Actual and well-defined functional disturbances directly centering in these areas must determine the necessity for treatment. A kidney with a wide excursus, which has no renal crisis or fixed symptoms incident to ureteral obstruction, is not an organ for surgical intervention. On the other hand, another kidney with a much smaller excursus and yet the seat of renal or ureteral colic should be relieved by operation.

So one sigmoid of exaggerated length may yet functionate properly, and the surgeon who, because it measured more than 17 inches, should determine to suspend or excise it, would display poor judgment.

The gist of the whole matter is that neither the anatomic standard nor the x-ray picture is to serve as a standard for an operation. Symptoms, indeed, exaggerated symptoms must be the guide. Further, one cannot approach the surgical treatment of these cases with such optimism as experience justifies in acute surgical lesions, for if we accept the view that many of these cases are of congenital origin we have at best a defective machine to deal with, in which the dynamic power is seriously or hopelessly impaired and in which there will not be a healthful rebound such as gives such gratifying results in acute surgical cases. I believe we are establishing well-defined surgical principles in some of these cases, and that from this hitherto hopeless medical flotsam and jetsam brilliant cases of surgical cure may be culled, and, further, that while a complete cure may not be effected, at least a sufficient relief may result from well-selected surgical procedures as to cause us to give these poor individuals closer study in the hope that we may afford them even partial relief.

SYMPTOMATOLOGY

From our observations in this class of patients we have discovered that a very precise history is necessary. Too often the bald statement is found in a poorly elucidated history that the patient "suffers from constipation." Such brevity is worse than valueless, for this symptom should be traced with full elaboration back to its fundamental source. In this way only may we differentiate between a functional and an anatomic constipation. Even after a history traces the symptoms back to early infancy one should not jump to the conclusion that a serious developmental defect exists, for the therapeutic test must be applied. An individual in whom the regulation of diet or the administration of some simple laxative, even if necessary of constant repetition, cannot be said to be seriously affected. Such cases have no place in the surgical domain. On the contrary, when an individual must resort to powerful purgatives and drastic enemata, and especially if there is an associated tympanitis with painful peristalsis, he must be considered as suffering from some serious anatomic or pathologic defect. My point will be best illustrated by type histories, which point with accuracy not only to these defects, but also to the segment of the colon most involved.

CASE REPORTS *

REDUNDANT SIGMOID WITH GREAT PTOSIS OF TRANSVERSE COLON

Case 2.—*History.*—Single woman, aged 27, of spare build, with no adipose tissue, bust being flat and undeveloped. Patient has never had any serious illness. Up to puberty had the average health of a young girl but was always greatly troubled from infancy with obstinate constipation. Does not remember the time when bowels were evacuated without a cathartic. For one year she was under constant treatment for anemia, taking large doses of iron. Her maximum weight is only 100 pounds. Her complexion is smooth but sallow. One year ago was seized with sudden severe pain in the right ileac region, although the pain was more or less general and of a paroxysmal, colicky nature, and was associated with abdominal distention, nausea and vomiting. This pain lasted several hours but the tenderness persisted at McBurney's point. For several years she had noted at times pain in the region of the ascending colon, and for some time there has been tenderness to pressure over the cecum and ascending colon. Deep pressure in ileac region causes pain to move upward to the hepatic area. Since the first attack she has had frequent colicky seizures which are always relieved by a bowel movement. She has always been embarrassed by loud borborygmus, and there is occasionally very distressing distention. She very definitely outlined the gurgling sensation along the course of the colon. No symptoms referable to gall bladder. Menstrual history normal. No backache; no renal or vesical symptoms.

Examination.—Pelvic examination negative. The x-ray reveals a greatly ptosed colon. The pelvic area shows a broad shadow making the differentiation of the transverse colon from the sigmoid impossible.

Operation.—Median hypogastric incision. Pelvic organs normal. Sigmoid flexure markedly redundant and dilated. Transverse colon markedly redundant; apex of colic arch in pelvis. Hepatic and splenic flexures in normal situation but greatly dragged on by colic ptosis. Cecum dilated. *Appendix* small, no adhesions, no sign of chronic inflammation. Twelve inches of sigmoid flexure resected, appendix removed, transverse colon suspended by Coffey operation.

Subsequent History.—Third day: Excellent recovery; condition satisfactory.

Seventh day: Wound healed. Bowels moved freely and easily.

Nineteenth day: Patient discharged to-day. Since the bowels were moved following the operation there has been a marked change in the ease of evacuation. While previously even large doses of cathartic failed, or only partially relieved the obstinate constipation (obstruction), now there is a spontaneous movement as a rule, and at most only 15 drops of cascara are required to give two movements daily. There is no abdominal distention and the patient is enthusiastic over her improvement.

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* Some of the case reports are omitted. See footnote at beginning of article.

Four months have now elapsed since the operation and the return to health has been most satisfactory.

CONGENITAL ADHESIONS CAUSING PARTIAL OBSTRUCTION OF SIGMOID

Case 3.—*History.*—Married woman, aged 24. Menstrual history normal. So far back as patient remembers she has had obstinate constipation. By persistent treatment she has had temporary intervals of comparative comfort. For the last eight years she has had a dull aching sensation in the left iliac region, and for the last six years she has had recurring attacks of sharp colicky pain in the left side, greatly increased by inattention to bowels and relieved to some extent by defecation. She volunteers the information that gas seems to meet some obstruction at the "sore spot." Posture does not change the character of the pain, but there is some abatement on lying down. For some time she has been under skilled medical treatment without relief. Enemata have been given, and during this time there has been considerable vesical irritability with frequent micturition. Recently there has been more or less mucus in the feces. She is subject to occasional attacks of sick headache. No indigestion; in fact, has an unusually good appetite. There is no excessive peristalsis. "The pain seems to be caused by gas rolling up against something."

Examination.—*X*-ray examination reveals a considerable massing of bismuth in the region of the sigmoid. No evidence of ptosis of transverse colon.

Operation.—Median hypogastric incision. On first attempt to ascertain cause of disability nothing of pathologic significance was noted, but after a closer inspection it was found that the sigmoid, instead of starting directly from the termination of the descending colon, continued along the pelvic brim and was firmly bound down by a congenital band of peritoneum which pulled the pelvic bend of the sigmoid close in against the pelvic wall. Above this point the intestine was greatly dilated; below, contracted.

The point of constriction corresponded to the area of pain. These peritoneal bands were divided by careful dissection, and on their release the sigmoid assumed its normal position. As there was danger of recurrence of the adhesions, several Pagenstecker linen stitches were carried from the base of the sigmoidal epiploic appendages to the ventral wall of the left groin, thus retaining the gut in its normal topographic position. A careful survey of the entire abdomen failed to reveal any other abnormality. The pelvic organs presented no trace of previous inflammation, thus excluding this focus as the cause of the adhesions.

Subsequent History.—The convalescence was uneventful, and the patient was uneventful, and the patient was discharged 21 days after the operation. All pain and sensation of obstruction promptly disappeared and the bowel resumed its normal function. Defecation was usually spontaneous. Four months have intervened since the operation without the slightest recurrence of her old symptoms.

EXCESSIVE PTOSIS OF THE TRANSVERSE COLON

Case 4.—The following history illustrates the effect of potential congenital factors becoming active after childbirth:

History.—Married woman, aged 34. Has given birth to three children, the youngest being 6 years of age. Until four years prior to examination she was largely free from abdominal symptoms. At this time she was in a runaway accident and was thrown violently with another woman from the carriage, her companion falling heavily on her abdomen. She was unconscious for a time, and following this had fever ranging from 99 to 100 F. for several days. On getting up she was conscious of a constant feeling of pressure to the right of the umbilicus, extending from the costal margin downward to the right iliac fossa. She noticed, also, some time after eating, a constant churning sensation along the course of the ascending colon (suggestive of Cannon's description of movement in this area). There is also considerable distention in this area from gas. Appendicitis had been suspected. One year previously vesical tenesmus with frequent micturition became a distressing symptom, and was treated for some time without relief as cystitis, although the urine was always negative. She described a sensation as though something were rubbing against the bladder. All of the symptoms were markedly increased when standing. She particularly called attention to the fact that for the last ten years, since the birth of her first child, she had been greatly constipated and this had become more exaggerated since the accident. She had been almost completely invalided for the last year.

Examination.—*X*-ray revealed a mass of bismuth entirely within the pelvis. With this picture as a guide in conjunction with the above history, a diagnosis of exaggerated ptosis of the transverse colon was made.

Operation.—Median hypogastric incision, revealing a very serious dislocation of the colon, even worse than indicated by the *x*-ray. The cecum and what should have been the ascending colon possessed a long mesentery. There was complete absence of any sign of an hepatic flexure. The cecum occupied the pelvis and six inches above it there was sharp angulation at the point where the colon passed obliquely upward to the splenic flexure. The colon proximal to the kink was greatly dilated as was also the appendix. The latter organ was as large as the little finger and distended with gas, without any point of constriction. Its walls were attenuated through over-stretching. Beyond the stricture the bowel was normal. The patient was particularly anxious that no unusual risk be taken, and although excision of a portion of the bowel seemed to be indicated we adopted the less hazardous operation of restoring the bowel as nearly as possible to its normal fixation points.

To accomplish this a second incision was made in the hepatic area. A point on the colon was selected for conversion into a hepatic flexure. Several peritoneal sutures were so placed as to snugly fix the intestine well back under the costal border of the liver. A careful examination of the upper zone of the abdomen revealed no further abnormality. The position of the stomach was essentially normal. After restoring the hepatic flexure a line of omental fixation was established across the abdomen, thus pulling the transverse colon well up out of the abdomen. The dilated appendix was removed. The kidneys were normal.

Subsequent History.—The subsequent recovery of the patient was uneventful although slow because of the severe asthenia. The bowels are still sluggish but are moved without difficulty. One aloës, strychnin and belladonna pill, with one drachm of sodium phosphate are sufficient laxatives.

For a time she suffered with painful peristalsis, but this subsided. The vesical symptoms disappeared within 24 hours and have not returned. She easily retains her urine for the normal length of time without discomfort. Likewise the "churning sensation" in the right side (Cannon movements), is no longer felt. Two months after leaving the hospital the patient reported from the Virginia Hot Springs that she had made splendid gains and was able to walk two miles without much fatigue and with great comfort. One week later on her return home further improvement was noted. The patient now has no abdominal discomfort.

CONCLUSIONS

1. Developmental anomalies are at the bottom of many cases of chronic constipation.

2. Posture is frequently a result rather than a cause of this ptosis.

3. Congenital potential factors are present in many individuals which become active through accident, such as traumatism, rapid and badly-cared-for childbirth, habitual constipation, operative adhesions, etc.

4. Neurasthenia often dates from childhood or puberty; operation, therefore, in the adult may give only partial relief because of this constitutional asthenia.

5. Cases in which there is a recent acquirement of the active factor give the best surgical results.

6. Various suspension operations are valuable in properly selected cases but disappointing in the remainder. At best these fixation points may be unstable.

7. Radical excision of obstructive portions of the large bowel may give the highest percentage of operative mortality but is likely to give the best ultimate results in the survivors.

8. In no field of surgery should haste be made slower than in this. It is not a field for the novice.

9. The most important factor in the diagnosis is a detailed clinical history pointing accurately to obstructive possibilities. A well taken skiagraph is of the greatest confirmatory value.

NOTE.—My two associates in this work, Dr. Floyd E. Keene and Dr. Nate Ginsburgh, will publish shortly papers on the embryologic and anatomic aspects of this question. I am greatly indebted to both for their assistance in this investigation.

2017 Walnut Street.

EXPERIMENTS WITH "CACTINA" AND "CACTIN" *

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The continued use by some physicians of the preparations of *Cactus grandiflorus* is perhaps sufficient justification for the publication of another investigation into their pharmacologic properties.

PART I.—EXPERIMENTS WITH CACTINA (SULTAN DRUG CO.)

The experiments to be described were begun at the request of Mr. F. Sultan, of St. Louis, Mo., who furnished the Cactina and also the Erlanger sphygmomanometer employed in part of the work. The investigation of Cactina was undertaken with the understanding that Mr. Sultan should furnish any apparatus needed, but that no compensation was to be made for the work, and that the results should be published after a report had been made to Mr. Sultan. Such a report was sent to him on July 4, 1908. Since that date some further experiments with Cactina and all those with Cactin (Abbott Alkaloidal Co.) have been performed.

EXPERIMENTS ON ANIMALS

It has been claimed that the effects of some of the alkaloids found in members of the cactus family are slow in manifesting themselves. This is said to be true of pellotin, a derivative from one or more species of the genus *Anhalonium*. To test this matter for Cactina, long continued experiments of blood pressure in dogs were undertaken. Six healthy and strong animals were employed in experiments lasting from four and a half to ten hours. Three animals were anesthetized with ether administered through a tracheal cannula and three with Grehant's chloroform mixture by the stomach.

All were given morphin hypodermically one-half hour previous to anesthetizing. The blood-pressure, pulse and respiration were studied by the graphic method.

The drug was administered in physiologic salt solution direct into the jugular vein. Varying doses were employed from as low as 0.13 gm. Cactina (0.65 gm. of dissolved pills of Cactina and milk sugar) in ten hours up to 6.5 gm. Cactina (32.5 gm. of Cactina and sugar) in nine and a half hours.

The tracings and tables from these experiments agree with the results of Hatcher[1] and Matthews.[2] There is absolutely no evidence of any strychnin or digitalis-effect, even under enormous doses. Throughout the six experiments there was noticed no constant rise or fall of blood-pressure. The blood-pressure rose somewhat at times and fell slightly at times, but not more than often occurs in an untreated animal, especially in an experiment continued over such a length of time.

The heart and respiration also were very regular and showed no constant or certain changes, as would have been sure to occur under digitalis or strychnin. The vagus nerve, stimulated at intervals in every experiment, always produced its usual effect on the heart. The temperature, as is usual in such experiments, fell from 1 to 3 degrees C. during the experiment. Never was there at any time heightening of the reflexes or convulsions or any other evidence of a physiologic action. Experiments with frogs to ascertain whether the diastole of the heart was affected in the manner described by Meyers[3] were also negative. No effect could be discovered, whether the drug was injected or was applied directly to the exposed heart.

EXPERIMENTS ON MEN

Series I: Experiments on the Pulse-Rate.—In the first series the pulse was counted before and after the administration of Cactina in a large number of healthy young men (medical students). The primary precaution in such experiments must be the elimination so far as possible of the psychologic element. The following tables show the results of suggestion on groups of medical students, to all of whom milk sugar pills were given. The determination of the pulse-rates was not made by the students concerned nor did the counter know what suggestion had been made.

A. The pulse-rates of a group of 13 students were counted. They were then given milk sugar pills. They were told that they had taken a heart stimulant. To make the case more vivid, the possible action of such drugs was discussed during the time intervening between the first and second counts. After 40 to 60 minutes the pulse rates were counted again. The results are shown in Table 1.

TABLE 1

Student.	Rate Before.	Rate After.	Change.
One	78	80	+ 2
Two	100	98	— 2
Three	94	106	+12
Four	74	80	+ 6
Five	108	106	— 2
Six	80	84	+ 4
Seven	82	90	+ 8
Eight	90	90	0
Nine	88	90	+ 2
Ten	60	70	+10
Eleven	76	94	+18
Twelve	54	64	+10
Thirteen	94	80	—14

Average increase, 4.2 beats a minute.

B. The pulses of 17 students were counted. Then they were given milk sugar pills and told that they had taken a new synthetic depressant. This was followed by a talk about possible action and results which had followed too large doses. After from 25 to 40 minutes the pulses were counted again, with results shown in Table 2.

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* From the Physiologic Laboratory of St. Louis University School of Medicine.

[1] Hatcher, R. A.: Cactus Grandiflorus and Cactin or Cactina, THE JOURNAL A. M. A., Sept. 21, 1907, p. 1201.

[2] Matthews, S. A.: Cactin and Cactina: An Examination Into Their Physiologic Action, THE JOURNAL A. M. A., March 21, 1908, p. 956.

[3] New York Med. Jour., liii, 681.

TABLE 2

Student.	Rate Before.	Rate After.	Change.
One	82	90	+ 8
Two	80	78	— 2
Three	58	60	+ 2
Four	72	70	— 2
Five	94	78	—16
Six	106	96	—10
Seven	74	68	— 6
Eight	92	90	— 2
Nine	72	70	— 2
Ten	64	66	+ 2
Eleven	96	88	— 8
Twelve	94	90	— 4
Thirteen	80	80	0
Fourteen	96	90	— 6
Fifteen	92	80	—12
Sixteen	84	76	— 8
Seventeen	84	76	— 8

Average decrease 4.4 beats a minute.

Although it is possible that part of the changes seen in these experiments are due to other causes than suggestion, the foregoing illustrate the need of every precaution to avoid suggestion in experiments on human beings. The need for precaution was further shown in one experiment in which students were given milk sugar without any suggestion. The first two students to be counted showed a lowered frequency and the rest jumped to the conclusion that they had received a depressant drug. Their counts were therefore nearly all low.

To avoid such results it was our custom to give half the class Cactina and the other half milk sugar, not telling any member what he was receiving but stating that half were taking merely milk sugar as a control. None of them knew what drug was being investigated nor the effects supposed to be produced. Three experiments of this kind were performed. The results of only one of these will be given here, as all agreed in the general result that Cactina had no effect on the pulse-rate.

Experiment 2: October 24, 1907. Each pulse-rate given is the average from 3 counts made by different men.

TABLE 3.—Part 1: Each student took 3 Cactina pellets; second count, one hour after taking.

Student.	Before.	After.	Change.	
One	82	82	0	...
Two	107	102	...	—5
Three	71	71	0	...
Four	72	80	+8	...
Five	71	69	...	—2
Six	62	62	0	...
Seven	95	91	...	—4
Eight	76	80	+4	...
Nine	90	86	...	—4
Ten	70	67	...	—3
Eleven	89	85	...	—4
Twelve	82	85	+3	...
Thirteen	70	77	+7	...
Fourteen	86	83	...	—3
Fifteen	93	92	...	—1
			+22	—26

Part 2: Control; each student took 3 milk sugar pellets; second count, one hour after taking.

Student.	Before.	After.	Change.	
Sixteen	81	80	....	— 1
Seventeen	72	72	0	....
Eighteen	81	82	+ 1	....
Nineteen	101	77	....	—24
Twenty	78	75	....	— 3
Twenty-one	80	91	+11	....
Twenty-two	96	92	....	— 4
Twenty-three	86	90	+ 4	....
Twenty-four	72	78	+ 6	....
Twenty-five	82	84	+ 2	....
Twenty-six	84	83	....	— 1
Twenty-seven	78	74	....	— 4
Twenty-eight	85	84	....	— 1
Twenty-nine	68	71	+ 3	....
Thirty	79	81	+ 2	....
Thirty-one	84	79	....	— 5
Thirty-two	81	73	....	— 8
Thirty-three	83	84	+ 1	....
Thirty-four	76	78	+ 2	....
			+32	—51
Omitting Student nineteen			....	—24
				—27

The decrease in the case of Student nineteen is abnormally large. Subsequent trials showed that his heart-rate was extremely variable. If we omit this case, the averages with and without Cactina are very nearly equal. In any case no general increase or decrease is indicated with either Cactina or milk sugar.

The pulse-rate is so responsive to a great variety of conditions that the slight differences in the averages cannot be attributed to the Cactina. Furthermore, one of the other experiments varied in the opposite direction.

The pulse-rate was also determined from the tracings made with the Erlanger sphygmomanometer. These determinations possess the value of eliminating the personal element on the part of the counter. No effect on the heart rate was demonstrable after the administration of Cactina in any dosage, even if continued through several days.

Series II: Experiments on Blood-Pressure in Men.—In this series of experiments eight healthy men were employed. The blood pressure was taken each day at the same time and under the same conditions, and with alternate periods usually of three days with and without Cactina. The usual dose was two or three of the pellets an hour during the part of the day that the man was awake. In some instances as high as twenty pellets an hour were taken for three hours in the morning, after which the blood-pressure and pulse-record were taken. In all about 200 tracings were obtained by the Erlanger apparatus, and at the same time the pressure was taken by the Riva-Rocci method. Study of the tracings and tables reveals no effect of Cactina.

Table 4 shows the results obtained with four of the subjects. "N" indicates "no drug" during previous 24 hours or more. "C" indicates "Cactina" taken at intervals during previous 24 hours or more. The determinations were made at the same time each day. Usually two or more trials were made at each sitting. The figures given are averages of each day's results.

TABLE 4.—EXPERIMENTS WITH THE SPHYGMOMANOMETER, SHOWING MM. OF MERCURY AT WHICH THE PULSE RETURNED (RIVA-ROCCI METHOD).

W. B. B.		L. B. B.		J. E. P.		E. P. L.	
1908.	mm.	1908.	mm.	1908.	mm.	1908.	mm.
4/22 N	102	4/22 N	104	4/27 N	114	4/30 N	113
4/24 N	105	4/28 N	97	4/25 N	112	4/29 N	112
4/27 N	97	4/30 C	100	4/30 N	111	5/ 1 C	115
4/27 N	105	5/ 1 C	102	4/29 N	117	5/ 2 C	110
4/28 N	105	5/ 4 C	105	5/ 1 N	118	5/ 4 C	113
4/30 C	96	5/ 5 N	96	5/ 2 C	108	5/ 5 N	109
4/29 C	103	5/ 6 N	107	5/ 5 C	111	5/ 6 N	112
5/ 1 C	104	5/ 7 N	106	5/ 6 C	119	5/ 7 C	114
5/ 2 C	106	5/ 8 N	104	5/ 7 C	115	5/ 8 C	113
5/ 4 C	107	5/11 N	96	5/ 8 N	117	5/ 9 N	114
5/ 5 N	107	5/12 C	98	5/ 9 N	115	5/11 N	113
5/ 6 N	97	5/14 C	104	5/12 N	103	5/13 N	113
5/ 7 C	95			5/11 N	110	5/12 N	115
5/ 8 N	104			5/13 N	108	5/15 C	107
5/ 9 N	97			5/16 C	115		
5/11 N	96						
5/13 N	97						
5/14 C	94						

	W. B. B. mm.	L. B. B. mm.	J. E. P. mm.	E. P. L. mm.
Average without Cactina..	101.1	101.4	112.5	112.6
Average with Cactina.....	100.7	101.8	113.6	112.0

PART II.—EXPERIMENTS WITH CACTIN (ABBOTT ALKALOIDAL CO.) ON BLOOD PRESSURE AND PULSE-RATE IN MAN

Series I.—In these experiments with Cactin only human beings were used. Eight normal men were tried at first. From this number, after several normal tracings were taken, four were selected whose blood-pressure varied the least from day to day. We thus eliminated those of a nervous temperament in whom the psychic element would make our determination of a less conclusive nature. The blood-pressure of the four men selected was taken by both the Erlanger and the Riva-Rocci methods for several days at as near the same hour and under as near the same conditions as possible. From these determinations the normal average was reckoned. After a few days another determination was made in most cases to see if the blood-pressure showed any decided change.

These records were followed by the administration of Cactin which was bought in open market in St. Louis. At first therapeutic doses, as recommended by the manufacturer, were administered. This was continued several days and cumulative effects were looked for. No effect of any kind on blood-pressure or heart-rate was demonstrable.

After several days, in which no drug was used, another series of tests was made, in which from ten to fifty times the recommended dose was given repeatedly for several days. No objective effects were seen either immediately or at any time. On being asked concerning subjective symptoms the subjects (who did not know what they were taking) stated that they did not feel anything. They were emphatic in the belief that they were not receiving any effective drug.

Series II.—At a later date, on a new lot of students, a series of pulse-counts was made.

EXPERIMENT 1. April 5, 1910, a. m. The pulses of 36 students were counted for half a minute, each three times. They were then told the purpose of the experiment and that part would receive milk sugar and part a drug, but that no one was to know what he personally received. In Group I each one received three sugar pills. In Group II each received three Cactin pills of 1/67 grain. During the next hour they remained quiet, a lecture being given to occupy the time and divert their attention. Then the second count was made, each man's pulse being counted three times by separate individuals. After another hour of lecture the third count was made. The results are shown in Table 5.

TABLE 5

GROUP 1: MILK SUGAR PILLS

Student.	Average Before Taking.	Average After One Hour.	Average After Two Hours.
One	45	38	40
Two	52	42	43
Three	49	37	43
Four	43	34	36
Five	37	33	32
Six	32	28	28
Seven	34	31	35
Eight	34	31	32
Nine	34	28	27
Ten	39	35	36
Eleven	35	32	36
Twelve	45	40	40
Thirteen	42	38	36
Fourteen	42	35	38
Fifteen	44	37	36
Sixteen	48	38	38
Average	41.9	34.8	36.0
Average change	...	—7.1	—5.9

GROUP 2: CACTIN PILLS

Student.	Average Before Taking.	Average After One Hour.	Average After Two Hours.
One	32	28	33
Two	40	33	34
Three	34	31	31
Four	37	33	33
Five	37	31	32
Six	40	40	37
Seven	36	32	34
Eight	46	35	36
Nine	38	34	32
Ten	45	41	39
Eleven	38	30	32
Twelve	39	36	36
Thirteen	36	30	32
Fourteen	45	35	36
Fifteen	37	30	34
Sixteen	41	35	37
Seventeen	42	40	37
Eighteen	32	28	29
Nineteen	40	35	33
Twenty	43	37	36
Average	38.9	33.7	34.2
Average change	...	—5.2	—4.7

EXPERIMENT 2: April 5, 1910, p. m. The pulses of 24 students (not those used previously) were counted for half a minute, three counts being made for each man. The experiment was repeated as above, except that half of the men took from six to twelve Cactin pills, each 1/67 grain. The results are shown in Table 6.

TABLE 6

GROUP 1: MILK SUGAR PILLS

Student.	Average Before Taking.	Average After One Hour.	Average After Two Hours.
One	36	42	41
Two	34	31	33
Three	34	28	28
Four	37	31	32
Five	32	32	30
Six	31	28	26
Seven	37	38	37
Eight	39	36	33
Nine	39	32	31
Ten	48	44	38
Eleven	40	37	39
Twelve	33	35	34
Average	36.7	34.5	33.5
Average change	...	—2.2	—3.2

GROUP 2: CACTIN PILLS

Student.	Average Before Taking.	Average After One Hour.	Average After Two Hours
One	37	37	34
Two	46	40	39
Three	39	37	33
Four	37	37	34
Five	41	35	35
Six	33	29	28
Seven	37	34	33
Eight	44	44	38
Nine	31	30	31
Ten	35	29	30
Eleven	38	36	35
Twelve	40	36	34
Average	38.2	35.3	33.7
Average change	...	—2.9	—4.5

It will be noted that there was a decrease in the average heart-rate in both groups and in both experiments. This was doubtless partly due to the fact that the first count was shortly after a meal; also partly, perhaps, to too short a rest in sitting posture (five to ten minetus) allowed after the students entered the laboratory before the first count was made. Perhaps the psychologic element of interest also had a part. It will be noted that in the first experiment the average decrease was less for those taking Cactin. It would have been easy to ascribe the difference to the drug, but the reverse was true in the second experiment. It is therefore evident that the differences in the averages are only such as one should expect when using no greater number of individuals. These results impress one with the need of caution to be observed in drawing conclusions from a limited number of experiments. It will be noted that during the second hour the average pulse-rate for the first experiment went up. In the second experiment, second hour, it went down. In both experiments "Cactin" and "milk sugar" averages go hand in hand.

CLINICAL RESULTS

Series III.—One of the authors (Qualls) has had the opportunity during the last year of testing Cactin clinically on patients in the City Hospital. Records of the pulse and systolic blood-pressure were made through long periods of time. For the most part patients were selected who were confined to their beds so as to eliminate the changes inevitable in persons who are moving about. It was thought wise to study first the effect of rest in bed, in order to be able better to interpret the cases in which the drug was used. The record of such a case follows:

CASE 1. *History.*—Patient entered the hospital Feb. 12, 1910, complaining of weakness, loss of appetite and shortness of breath. The heart-rate was *rapid*, and the pulse weak and irregular. Some ventricular systoles did not reach the radial pulse. The rate of perceptible radial pulse varied markedly, at times reaching 150 per minute. The patient's feet were swollen: he was cyanosed, and breathing was difficult. Urine showed large amount of albumin.

Diagnosis.—Nephritis, myocarditis and edema of lungs. The patient was put to bed and put on a milk diet for a few days, together with diuretics and cathartics. From a study of vascular system with the daily determination of blood-pressure it was seen that patient required no cardiac stimulant. Records of pulse and blood-pressure were as follows (each pressure given is the average of two or more trials):

TABLE 7

Date.	Pulse Rate Per Min.	Blood Pressure mm. of Hg.
Feb. 12....	150	140
Feb. 13....	120	145
Feb. 14....	115	135
Feb. 15....	90	135
Feb. 16....	105	120
Feb. 18....	76	100
Feb. 19....	60	95
Feb. 20....	67	100
Feb. 21*...	70	115
Feb. 22....	72	108
Feb. 23....	70	112
Feb. 24....	80	135
Feb. 25....	72	120
Feb. 26....	80	125
Feb. 27....	65	115
Feb. 28....	75	120

* Diet increased on this date.

Inspection of Table 7 shows that as patient was relieved of his edema and toxemia his blood-pressure was lowered. The pulse-rate also was lowered and much more regular. A freer diet was given and the pressure became higher. The patient's condition required rest in bed during time determinations were made. He improved and was discharged from hospital with only slight cardiac arrhythmia. This case demonstrates what erroneous conclusions might be drawn as to the value of so-called cardiac tonics if some inert substance had been given during early part of the time the patient was in bed.

The foregoing is a fair sample of five cases in which no drugs were given from date of admission for periods of seven to thirty days and in which similar "steadying" of the pulse and readjustment of blood-pressure occurred. Following these experiments eight cases were studied in similar manner, Cactin being administered for some portion of the time. A fair example follows:

Case 2. *History.*—The patient entered the hospital Jan. 28, 1910. Clinical diagnosis, tabes dorsalis with Charcot's joints. Patient was at rest in bed. Some slight arteriosclerosis of radials; no other marked sclerotic findings in vascular system. After patient's pulse and systolic pressure had been determined for ten days, Cactin was commenced, as shown in Table 8, with results as indicated. Every blood-pressure determination in the table is the average of two trials.

TABLE 8

Date.	Pulse Per Min.	Blood Pressure mm. of Hg.	Drug.	Grains Per Day.
February 6........	99	135	None	
February 7........	90	132	None	
February 8........	89	122	None	
February 9........	90	125	None	
February 11........	96	126	None	
February 13........	115	135	None	
February 14........	81	120	None	
February 15........	84	108	None	
February 16........	90	125	None	
February 18........	72	100	None	
February 19........	78*	102*	Cactin	1/34x4
February 20........	90	118	Cactin	1/17x4
February 21........	99	142	Cactin	1/17x4
February 22........	87	115	Cactin	1/17x4
February 23........	88	115	Cactin	1/67x3
February 24........	75	115	Cactin	10/67x3
February 25........	81	130	Cactin	10/67x4
February 26........	81	125	Cactin	20/67x4
February 27........	78	112	None	
February 28........	75	108	None	

* In all cases the drug was administered during 24 hours previous to determination.

If now we calculate the average pulse and blood-pressure for the first ten days during which no drug was given we get 90.6 and 122.8 respectively. For the eight days during which Cactin was given the pulse averages 84.7 and the blood-pressure 120.2. If we average all the days, "before and after taking" in which no drug was administered we have pulse, 88.2; blood-pressure, 120.7. Averaging two days without drug following the period of administration: pulse, 76.5; pressure, 110. In other words pulse and pressure go down "on drug" and also "after drug."

Of more significance is the general observation that the blood pressure and pulse vary as much under the drug as without and that during the drug period there is no relation between the determinations and the dose nor any cumulative effect.

Case 3.—The patient had tabes dorsalis and cirrhosis of liver. The results of the experiment are shown in Table 9.

TABLE 9

Date.	Pulse Per Min.	Blood Pressure mm. of Hg.	Drug.	Grains Per Day.
February 6........	115	118	None	
February 7........	118	135	None	
February 8........	115	125	None	
February 9........	115	115	None	
February 11........	115	122	None	
February 13........	88	100	None	
February 14........	90	120	None	
February 15........	90	130	None	
February 16........	96	105	None	
February 18........	90	118	None	
February 19........	90	120	Cactin	1/34x4
February 20........	90	110	Cactin	1/17x4
February 21........	84	115	Cactin	1/17x4
February 22........	84	110	Cactin	1/17x4
February 23........	90	115	Cactin	1/67x3
February 24........	90	118	Cactin	1/67x3
February 25........	91	112	Cactin	10/67x4
February 26........	90	118	Cactin	20/67x4
February 27........	96	116	Cactin	50/67x2
February 28........	90	115	None	

The average pulse and pressure respectively for the ten determinations before the drug was given we find to be 103.5 and 118.8 For the nine days during the administration of the drug 89.5 and 114.9. A lowering of the pulse and pressure as the result of Cactin might be asserted. But suppose we omit the first five days during which the rest in bed manifests its "steadying action." The averages without drug are now 91, pulse; 114.6, pressure; results more nearly like the Cactin averages than the average of any five days of its own period.

The two experiments cited show averages of pulse and blood pressure under the drug slightly less than those of the preceding "no drug" period. It is possible to get just the opposite result, for example:

Case 4. Typhoid complicated with nephritis.—On Feb. 5, 1910, after patient's temperature was normal, determinations of systolic pressure were commenced. Patient was still on typhoid diet and was gradually put on full diet during the course of the experiments; he also was kept in bed during the course of the experiments.

Results.—Average pulse for thirteen days, February 5-18, no drug, 87.7; average blood-pressure, same period, 110.4 mm. Cactin treatment then begun, dosage from 4/34 grains to 1 grain a day. Average pulse-rate for periods, 97.5; average blood-pressure, 118.7 mm.

It is seen that the average blood-pressure after the administration of the drug is about 8 mm. higher than before drug was given; but this is no more than could be expected with a patient recovering from an infectious process, with the increase of diet. It was also seen that the systolic pressure bore no relation to the amount of drug used; for example, on February 27 the largest amount of drug was given; however, the blood-pressure was lowest on this day of any time during which patient received the drug.

Another example of rise of blood-pressure during administration of Cactin follows, but in this case the pulse average goes in opposite direction.

Case 5. *Diagnosis.*—Trichinosis complicated with nephritis. After the temperature was normal and the patient was able to leave the bed and walk about, the experiment was begun.

Results.—The average pulse and pressure for eleven days without drug were respectively, 82.5 and 108; for eight days following on Cactin treatment averages were 77.6 and 120.1, respectively. The dose varied from 3/67 to 100/67 grain a day. There was no relation between the pulse or pressure and the dosage.

One more case will be cited in which the "enormous" (?) dose of 3 grains a day of Cactin was administered.

CASE 6. Tuberculosis of hip.—Circulatory system normal. In bed from Jan. 28, 1910. Experiment begun March 20, 1910. Results shown in Table 10.

TABLE 10

Date.	Pulse Per Min.	Blood Pressure mm. of Hg.	Drug.	Grains Per Day.
March 20	89	108	None	
March 21	84	118	None	
March 22	90	107	None	
March 23	84	110	None	
March 24	86	112	None	
March 25	87	115	Cactin	10/67x2
March 26	84	104	Cactin	10/67x3
March 27	89	102	None	
March 28	90	112	None	
March 29	90	105	None	
March 30	90	102	Cactin	50/67x4
March 31	88	112	None	
April 1	98	115	None	
April 2	81	102	None	
April 3	84	102	None	
April 4	75	102	None	
April 5	90	98	None	
April 6	81	104	None	

It is evident that there are no variations in heart beat or blood pressure attributable to the Cactin.

SUMMARY

A large number of experiments were made on animals, on healthy young men and on patients in bed, and no effects of "Cactina" (Sultan) or "Cactin" (Abbott) could be demonstrated.

THE RÔLE OF OBSTETRICS IN PREVENTIVE MEDICINE*

W. P. MANTON, M.D.
DETROIT

With rare humor Dr. Oliver Wendell Holmes once wrote a prescription for longevity. Arriving at 60, to attain the ripe age of 80 "become the subject of a mortal disease," he says; but he fails to enlighten us as to how we may reach the year at which to begin his remedy. It is the object of every living being to lengthen life to the utmost, and in this prolongation of existence lies, with qualifications, the success of the state and the race. But as from the intervention of disease, few attain to that period when "every man with his staff in his hand for very age" marks the decline of usefulness, it is the object of preventive medicine to attempt so to safeguard life that it may be lengthened out to four-score years and ten of normal existence. Every century sees improvement along these lines, for increasing knowledge of disease brings with it the power and ability, not only to cope with existing conditions, but to anticipate and forestall those disorders which in their course tend to premature death or functional disability—a condition so nearly allied to non-existence as to render its subject of little or no value to society.

"To prepare us for complete living," says Herbert Spencer, "is the function that education has to discharge," and it is only through the education of the people and the profession—and one is sometimes inclined to agree with Gowers that "knowledge filtrates slowly through the profession"—that results can be attained in the uplift of the whole.

The subject which has been assigned me, the rôle of obstetrics in preventive medicine, is so broad and comprehensive that in the time allowed for its presentation I can hope only to touch on a few of the well-known facts, leaving much of profit to be brought out in discussion.

DEFINITION OF OBSTETRICS

Ask any ten men in the medical profession what they understand by the term "obstetrics" and the majority will give the dictionary answer, the care and attention rendered woman at the time of childbirth. But this is obviously too narrow and restricted a concept, for it has regard to only one of the actors in the drama, the mother, while the child, in which are grouped all of individual, family and national potentialities, is ignored, and the father left entirely out of the question. It is evident that if obstetrics has a place in preventive medicine its definition, in its broadest sense, must include all of those factors which enter into the production of children and the employment of all of those agents which make for strong and healthy bodies and sound mentality. Thus defined, the scheme of obstetrics would embrace *the whole of the life of woman from gamete existence to climacteric accomplishment*, the child from conception to birth, and to an extent the man also. By this we may understand that the obstetrician's duty does *not* begin and end with the delivery of the parturient, but reaches back to a consideration of heredity, and the study of antenatal development and pathology, including all of those conditions which make for the welfare of the child.

And it thus becomes evident that the science of obstetrics is complex, and so mortised with biology, pathology and general medicine that it is inseparable from either of these, and that while, like the colors of the spectrum, each component part is susceptible of analysis, each is so blended and interwoven with the others that it is only when taken together that a complete and luminous whole is possible.

EUGENICS

Whatever may be our views regarding the inviolability of the germ-plasm, it is certain that characters and tendencies are handed down from generation to generation, and that disorders manifested in the parents may be reproduced in their progeny. The breeding of best to best must result in the production of the best, while, conversely, the issue of bad and bad or bad and good cannot attain to the same standard of excellence, even with the aid of "ancestral pull."

Stirpiculture may not be as readily directed in the human species as in the lower animals, and yet a persistent propaganda by way of suggestion, warning and advice on the part of physicians would in ultimate outcome be of greatest profit. If the marriage of those possessed of a family "taint," of the consanguineous, and of the socially and morally unfit could be prevented, eugenics would be advanced, the results for good would be incalculable, and the financial saving to the state enormous.

Inherited weakness in man, and especially in woman, is often magnified in the products, for, as Thomson observes, "an individual inheritance is a mosaic of ancestral contributions." Fortunately, sterility often puts a stop to further degeneracy along these crooked lines; and in the interval preventive medicine attempts its best to bolster up a feeble and tottering organism. And this is worth while, as, according to Hamilton, where a "vicious line is introduced it may die out, and probably does in most cases die out by interbreeding with a series of pure stocks;" even if "no reliance can be placed on its not recurring atavistically, it may be generations after."

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Prophylaxis, therefore, must begin with life before birth and continue during the period of reproductive activity; an undertaking of vast proportions; but why should not the relation of the state and the physician be reciprocal?

FACTORS INFLUENCING FETAL DEVELOPMENT

Although maternal impressions, as popularly understood, are probably scientifically impossible, it is well established that impressions are constantly influencing the child during the whole of intrauterine gestation. Our knowledge of these facts is not imaginary but is derived from laboratory experiments and investigation, pathologic chemistry and clinical observation.

From the beginning of pregnancy the anatomic barriers between mother and child are such that no particle of formed matter can pass from one to the other, but untoward tendencies, notably an unstable mental and nervous organization of the mother, and deranged maternal metabolism, may seriously interfere with the nutritive processes of the child, or produce diseases of the fetal structures terminating in maldevelopment of organs, which end existence or prevail in crippled function throughout life. Morbid conditions arising within the placenta itself may prove, not only injurious or fatal to the fetus, but of serious consequence to the mother (hydramnios, hydatidiform mole, etc.).

It is also demonstrated that continued or repeated violence to the nested ovum is capable of producing malformations and monstrosities, and strong mental emotions, fright and traumatisms of the mother not infrequently lead to maldevelopment of body and mind in the offspring.

The placenta has been found not to be the perfect filter, as was formerly supposed, for morbid germs pass through its substance and invade the fetus, giving rise to the same diseases as suffered by the mother or to equally serious conditions (syphilis, tuberculosis, septic infection, smallpox, etc.). Other maternal disorders, the active agents of which may not be demonstrable in the fetal tissues and some of which may remain dormant for a considerable time after birth, sooner or later become manifested in postnatal life.

Again, toxic agents, for example, alcohol, tobacco and lead are responsible for fetal malformations and mental obliquities, frequently reappearing in successive generations. It is true that the presence of most of those antenatal disorders to which reference has been made cannot be diagnosticated during intra-uterine existence, and that malformations and monstrosities are largely due to errors of embryonic development, still, with the knowledge acquired from antenatal pathology, we are in position to apply anticipatory measures in the interests of both mother and child, and by prophylaxis and timely interference, to bring about results which, in a proportion of cases at least, must make for greatest good. In undertaking preventive measures, however, we must not lose sight of the fact that many antenatal conditions are dependent on circumstances antedating uterogestation, so that to insure somewhat of success preventive steps must be inaugurated before the advent of conception. In other words prophylaxis must be started with beginning postnatal life. Especial attention must therefore be directed to the proper management of the child, and efforts made not only to prevent or inhibit the diseases of that period of life, but also to eliminate as far as possible all those factors of the plastic years which may result in conditions inimical to future normal pregnancy and motherhood.

FACTORS INFLUENCING POSTNATAL DEVELOPMENT

"The rearing of healthy children," says Knopf, "is the most valuable asset to a nation's strength and prosperity," but this is impossible unless the whole cycle of reproductive life be included.

The sequelæ of the acute exanthemata and other diseases in the kidney and pelvic organs may have a bearing on fertility and the pregnant state, the one by possible influence on normal development of uterus and ovaries, the other by weakening organs on the integrity of which depends so largely the successful progress and outcome of normal pregnancy.

The influence of scarlet fever in the production of cardiac disease and as a direct cause of deaf-mutism, which in Great Britain is reported to reach as high as 23.5 per cent., may also be mentioned. Moreover, according to Gowers, "more cases of epilepsy are consecutive to scarlet fever (apart from the influence of nephritis), than all other acute diseases put together"; while Funkhouser has recently pointed out the importance of this disease as an etiologic factor in the causation of psychoses (postfebrile and exhaustive psychoses, dementia præcox, etc.).

Regarding other diseases of childhood which may lead to future obstetric disaster, much might be said, but I will confine myself to calling attention to one of the most important and far-reaching evils in this connection, namely, child-labor. Fürst has called attention to the relation between severe continued bodily exertion and uterine deviations and adnexal inflammations. During the formative years of life when the local organs are most susceptible to external as well as internal influences, the increase of intra-abdominal pressure from heavy lifting and straining, especially with overfilled bladder or rectum, favors pelvic congestion and displacements. If to these be added the nervous strain induced by monotony of work, as in factories, with the relaxation of tissues in a deteriorated body from unhealthy environments, lack of fresh air and liberty for out-door exercise, poor and insufficient food and a life of poverty, we have an array of agents the baneful operations of which cannot be overestimated. A recent writer in a popular publication has well summarized the effects of such unhealthful occupation. "The factory woman," she says, "if she is married, is too tired to show much attention to her home. She may give her baby drugged cordials to keep it quiet; most of her children die near infancy and those that survive are anemic. If she is not married she is likely to be some time, and she is using up energy that belongs to her children, to whom she will give an enfeebled life, and so bring down the general average of the race."

Were these the worst features that might be enumerated they would be bad enough, but of still greater importance to the future mother are the effects produced on the development of the pelvis in young girls—deformities and contractions—which may become evident only at time of parturition. In many of the conditions induced by child-labor the symptoms may at first be so slight as to escape attention, but their sequelæ are sure to appear later; in the unmarried in the form of amenorrhea, dysmenorrhea, endometritis, oöphoritis, salpingitis and the like; while after marriage they are shown in metritis, sterility, abortions, difficult or impossible delivery, etc., the maternal and fetal mortality and morbidity statistics of childbed being thereby largely increased, with a growing list of female morbidities met with in the clinics. If laws could be enacted and enforced controlling child-labor, the rôle of obstetrics in preventive medicine would be greatly lessened.

HEALTH AND DISEASE IN PREGNANCY

Pregnancy being, according to the books, a physiologic process through which most women pass without untoward event, the practitioner in the past has presumed too much on "Nature's" ability to take care of the gravida, and has therefore shirked responsibility. But the effect of the growing ovum on the maternal organism differs in different individuals, and it is wrong to assume that a process which may be normal in one is necessarily normal in all. As a matter of fact, of which we are all cognizant, the border-line between health and disease in pregnancy is often a shadowy one, and unless the patient's health is closely supervised during the whole period of uterogestation serious complications may arise, which, in their culmination, may prove of gravest import to the mother, child, or both, with resulting discomfiture, mortification and regret to the physician. It is an old adage, but true, that "he who cures a disease may be the skillfullest, but he who prevents it is the safest physician."

Newell has called attention to two types of women with which the physician of to-day has to deal; one, the natural woman, generally of the poorer class, in spite of privations and hard work, preserving a vigorous and healthy body and ignorant of nerves, goes through her pregnancy and labor with the least possible difficulty and without after reaction; the other, the "overcivilized" woman, in whom the nervous system is exaggerated and overdeveloped—whatever may be her somatic state—stands the trials of pregnancy but poorly; the test of labor becomes almost a pathological process; and the woman too often, from the imposed strain, breaks down after delivery is accomplished. The latter is usually the product of the older communities, where social obligation stands first, antagonizing the rearing of healthy children, and imposing conditions the penalties for which are exacted by maternity. But into whichever class the patient may fall, she must not be disregarded during this greatest of tests of bodily fitness, and each patient must receive that care and solicitious attention which the condition demands. Knowing that every abnormal process, preceding or inaugurated during pregnancy, is presaged by some sign or symptom, the physician should be ever alert to detect the earliest evidences of threatening danger, and, by anticipating possible evils, seek to check those morbid showings which may lead to serious results. Women who exhibit or have shown in former pregnancies, a tendency to pathologic complications should receive particular care and attention. In this connection much might be accomplished by the establishment of what Ballantyne calls prematernity hospitals, or the setting aside of special wards in existing lying-in institutions, where morbid pregnancies might be studied and "their treatment elaborated and placed upon a sure basis founded on experience." In such a hospital the poor would be cared for free of expense, and the well-to-do and rich placed under the most favorable conditions for a happy termination of a morbid gestation. The benefits to be derived from hospital treatment and supervision, especially in the instance of the working woman, under normal conditions, has been investigated by Pinard and others, and it has been found that the children of such patients, who were thus enabled to rest during the days preceding confinement, are heavier in weight, and undoubtedly healthier and stronger than the infants of those who engage in active work up to the onset of labor.

RESPONSIBILITY OF THE OBSTETRICIAN

Nature is said to be kind, for out of the thousands of women delivered annually, few, in comparison, suffer seriously from the disorders of pregnancy. The sins of omission may possibly be forgiven but not so those of commission, for which there is often little or no excuse excepting ignorance and unskilfulness. It is in the delivery of the patient that the physician displays his shortcomings most conspicuously. Into his hands are committed the lives of two individuals, and how often the responsibility is lightly assumed and without thought of fitness for the task! And yet how important to the future of the patient is the skilled conduct of labor, and how frequently is indifferent and sloppy midwifery responsible for years of suffering and ill-health in the after life of the mother, while the child may perish or not as the case may be!

Midwifery is the golden key which unlocks future possibilities and success to the young physician by opening up opportunities to family practice which might otherwise be difficult or impossible to obtain. And yet it is safe to assert that, whatever may be the reasons assigned, in no department of medicine in which he is called on for conscientious and capable action is the beginner—and this unfortunately applies to many an older practitioner—less equipped and competent than in obstetrics. We demand that the educated and well-qualified physician, before entering into private practice, shall have had a hospital training in medicine and surgery, but who has ever heard it urged that he shall also round out his knowledge by experience gained in a maternity? The question when to interfere in delivery or when to abstain from active assistance, demands rare judgment and experience, as well as when by preventive measures may be gained the ounce of safety that is worth so many pounds of after-treatment.

If, as President Eliot says, the first duty of the physician is to prevent as well as cure disease, "the first step in prophylaxis," as some one cleverly remarks, "is to get a sufficient experience with what one wishes to prevent," and nowhere outside of a maternity hospital can this be so successfully accomplished.

Obstetrics has made great advancement during the past quarter century and the observance of asepsis and the larger knowledge of morbid conditions and their sequelæ which has been acquired have enabled the practitioner to afford assistance to the parturient under circumstances which in the past would have been impossible. As illustration, the interest which has been manifested within the past few years regarding the contracted pelvis is noteworthy as indicating the trend of modern obstetric thought and purpose.

MANAGEMENT

In the question of the management of such cases many different considerations are involved, and it is only by weighing the mortality and morbidity of mother against those of child, with reference to any given operation, that the one promising most satisfactory results can be adopted. A familiarity with the bony pelvis, being the foundation for a knowledge of treatment, leads to the consideration of those elements which conduce to the intra-partum safety of the mother as well as the safe delivery of the child. By careful pelvimetry, a study of the woman's physical and nervous make-up, and information gained as to the size of the fetal head in relation to that of the canal through which it must pass, the obstetrician is enabled to determine to a degree what may be expected at time of labor, and sometimes to inaugurate preventive measures which may secure relief, but always to prepare before hand for such intervention as may become necessary in the individual case.

While it is true that the interpolation of accidental conditions, which often cannot be anticipated, make "foreknowledge absolute," impossible, yet, the physician being to a large extent forewarned, the fault is his if in the time of need he is not also found forearmed.

The prophylaxis of the puerperium should be anticipated in pregnancy and in labor, for a clean gestation and a clean delivery usually sign for a healthy childbed. The occasional development of a pathologic state post partum must be met as it arises, but that many, if not most, of these are preventable incidents is within the experience of all. Unwise and uncalled-for tinkering by the physician—frequently resulting from alarm occasioned by a rise in temperature due to an overdistended bladder or rectum, to nervous irritation or some such trifling cause—are responsible to a large extent for the mishaps of the lying-in period. Only recently I have seen in consultation two cases of pelvic abscess which resulted, in each instance, from unnecessary curettage, and which entailed weeks and months of suffering to the women, to say nothing of the apprehensive fears of physicians and families, and the unnecessary expense to those who were not in position to bear the burden.

MIDWIVES

The advent of septic infection in the lying-in woman has rarely an excuse, for the principles laid down by Holmes and Semmelweis, Pasteur and Lister, if carried out, make the occurrence of this disorder mostly preventable, so that the responsibility and blame for its presence must be borne by those who have the patient in charge. That the midwife, especially in congested districts, is generally accountable for the morbidity and mortality resulting from infection during and after labor, is evident from the reports of city boards of health. Miss F. Elizabeth Crowell, who personally visited 500 midwives in the Borough of Manhattan, New York City, found that of this number only fifty, or 10 per cent., could be qualified as capable and reliable, and those seen represented only about half of the practitioners in that borough.

We require that the physician shall have taken a prescribed course in a reputable medical school, the examinations of which he must have passed and later those imposed by a state board of registration, before he can legally enter into practice, and yet we permit, in many states without a question, an ignorant and dirty woman, such as depicted by Miss Crowell, "whose hands were indescribable, whose clothing was filthy, the condition of whose bag beggars description," to officiate in obstetrics, an important branch of medicine, and thus to slay and kill without one word of protest. Laws there are, which are enforced, for the protection of children, animals and birds, but the unfortunate mother and new-born babe are left unprotected to the mercy of the mercenary and indifferent. With all our vaunted philanthropy it would seem as if the times were ripe and civilization advanced enough for legislative control of these carriers of disease and death, and it should be the especial concern of every physician having the welfare of his community at heart constantly to urge, in season and out of season, either the elimination of the breed, or, what seems more desirable, the creation of educational standards and state examinations and a supervision of midwives by legislative enactment.

DIFFICULT LABOR AND INFANT MORTALITY

The dangers to the infant incident to prolonged and difficult labor should ever be borne in mind, and early intervention in the interests of the child, when not inimical to the welfare of the mother, should be the rule of practice. But in carrying out such prophylactic measures it must not be forgotten that forceps and manual traction on the child are capable of much mischief, often resulting, if not in immediate trouble, in subsequent disorders of the brain and nervous system. The latest government statistics for the year 1907 and 1908 show that one-fifth of the deaths that occurred during that period were in infants under one year of age, while during 1908 more than one-eighth of a million (136,432) babies died in about one-half the total population of the United States. Ignorance and society have been largely responsible for the disastrous conditions which have heretofore prevailed, for, according to Prof. Irving Fisher, 47 per cent. of the diseases of the neonatus are preventable. Goussew states that in the Munich clinic 50 per cent. of antenatal deaths result from syphilis, and this disease undoubtedly plays an important part in the death-rate of early postnatal life.

FEEDING

It is also true that a large mortality results directly or indirectly from the improper feeding of the new-born. While for lack of something better, artificial food mixtures must be used in a certain percentage of cases, it is universally acknowledged that breast-fed infants are better qualified to carry on existence and resist disease than those brought up on the bottle. The investigations of Tugendreich in this connection are of interest. This observer found that of 388 breast-fed babies in 64 families there was a mortality of only 19.8 per cent., while in 229 bottle-fed infants the death-rate rose to 43.3 per cent., a strong and unanswerable argument in favor of a fast-declining custom, maternal suckling.

INFECTIONS OF THE NEW-BORN

Nearly, if not quite all, of the infectious diseases of the new-born are preventable, the germ being introduced, as a rule, during or immediately following labor. Morse is of the opinion that the wiping out of the child's mouth by dirty fingers or contaminated cloths is a prolific source of evil. Twenty-seven years ago,[1] I called the attention of American obstetricians for the first time to a disease of great importance and danger, ophthalmia neonatorum, and urged its prophylactic treatment by the nitrate of silver method, just then worked out by Professor Credé of Leipsic. Two years later I again took up the subject,[2] but both of these articles apparently fell on barren ground, for, excepting the splendid work of Garrigues at the New York Maternity Hospital, little attention was given to the subject until more than twenty years later. The profession is now alive to the gravity of the condition, interest having been created principally through the efforts of the

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1. Am. Jour. Obst., October, 1883.
2. Boston Med. and Surg. Jour., Aug. 13, 1885.

New York Association for the Blind and its special committees. When it is considered that one-quarter of the blind children in the schools for the blind of this country have been unnecessarily deprived of sight, the seriousness of the matter becomes apparent. Physicians, and particularly midwives, are responsible for loss of sight from this cause, and it is a matter of shame and opprobium to the profession that a single individual should be doomed to lifelong darkness when at the expense of a little trouble and the employment of so simple a preventive this might be absolutely prevented.

CONCLUSIONS

In the foregoing remarks I have attempted to indicate a few of the many conditions in which obstetrics plays an important rôle in preventive medicine. Surely, as "the child is father to the man," and woman the "treasury of the continued race," no pains which may be taken to preserve each in normality and health should be accounted too great.

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ABSTRACT OF DISCUSSION

Dr. Henry B. Hemenway, Evanston, Ill.: We well know that a large share of the diseases, particularly of the nervous system, are due primarily to heredity. For example, in London, speaking roughly, a large share of the mental defects, including epilepsy, and the ordinary neuroses, are traceable to the use of alcohol in the preceding generation. In Switzerland it is found that a large proportion of the children in institutions for the imbeciles and epileptics are begotten at a time when their parents are probably under the influence of intoxicants. During my practice I had a case of acephalus, the ante-partum history of which was as follows: During the third or fourth month of pregnancy the mother of the child attempted to stop a cow which was getting out of the barn, and was struck on the abdomen. I observed the case closely and I have no doubt but that the blow there caused hydrocephalus. Supposing that I had to deal with a very large amnion, I ruptured the membrane. When the child was born, I found that evidently I had *mistaken the head itself* for the membrane, and that the acephalic condition was the result of that injury.

When Dr. Manton first put forth his idea of ophthalmia neonatorum, some of us thought that perhaps he was a little bit visionary; but I think that facts have demonstrated that he was far-sighted. The danger of spreading the various infections through carelessness in the attendance on cases of confinement is illustrated by one instance which I remember. A physician attended a case of erysipelas, and went thence to three successive confinements and every one of those women died from what was familiarly called puerperal fever.

Dr. P. M. Townsend, Marshalltown, Ia.: We know that if the bone salts in the blood of the mother are ample and abundant, the bones of the child are well-*nourished*; but if for any reason there is a lessening of the bone salts in the blood of the mother, the bones of the child will be softer. The food of the mother before it becomes nerve tissue or muscle tissue, goes through a variety of processes, and is built up into more or less complex substances. The blood-supply of the child and the blood-supply of the mother presumably have the same composition in elemental food-supplies; the child's different tissues would therefore receive the same proportionate supply of food-elements; in that manner possibly those *brain* functions in the child would be best nourished which correspond with the brain functions active in the mother and therefore calling for a food-supply and influential in having the mother's blood contain a large proportion of such food-supplies as these activities require. The blood of the musician would be well supplied with such food elements as would nourish nerve tissue, whereas the blood of the woman whose time was taken up almost solely with washing would be well supplied with such food-elements as supply muscle tissue and we would expect from the child in the latter case a more thorough muscular development, but in the former case a better endowment of the nervous system. We should educate for parentage as for any other social functions of the human being.

Dr. C. W. Stiles, Washington, D. C.: The relation between obstetrics and preventive medicine is a tremendously important matter in rural districts. In rural districts where I have been working in connection with other matters, it is the exception that the women in confinement see a physician; and I think that we can not infrequently trace back to the period of confinement the conditions that we find among some of our country children, and the later conditions in life of many of the farm mothers.

Dr. Allen W. Freeman, Richmond, Virginia: I suppose our experience in Virginia has been that of all other health departments on this subject. We have walked around and around it, looking at it, realizing its importance, but not feeling quite like attacking it; but I think it is time for somebody with Dr. Hurty's nerve to open up operations. There is no doubt that tens of thousands of women are being absolutely murdered by ignorant midwives. Every one who has ever practiced obstetrics knows how filthy and dirty, how officious and meddlesome these women are; and we know what a tremendous total of fatal and crippling illness they cause every year. If we try to get rid of the midwife, the public takes the attitude that we are trying to get a little more money for the average practitioner and do the poor working woman out of her $3 or $5 fee; but we should not let that keep us back: we must tell the people how many women these midwives are killing, and how much illness they are causing. I don't think people want to run the risk of being infected or killed by midwives; they run the risk because they don't know. The obstetrician and the health officers are the only people who apparently do know; and if we are going to be true to our duty, we must bring this information to them.

Dr. C. Hampson Jones, Baltimore: The midwife question is one in which we of Baltimore and Maryland have been much interested for many years; and I am glad to say that at a meeting of the last legislature we succeeded finally in passing a law which will enable us to improve the situation a great deal. For many sessions of the legislature, bills had been introduced which met defeat regularly; and only by the greatest care in drawing up this last bill, so as, while being effective, yet not too strongly to antagonize the interests of the midwives, did we succeed in getting the bill through.

Some years ago I wrote a short paper reciting cases of tetanus neonatorum; I think there were 32 cases occurring in one year; and out of those, but 28 were in children under 20 days old. Among those twenty-eight cases, twelve cases occurred in the practice of one midwife; and on examination it was found to be undoubtedly due to the filthy condition of the woman's hands in treating the cord of the child. One very distressing case of tetanus was produced in the mother.

Midwives undoubtedly cannot be abolished, and I don't know that it is at all desirable to abolish them, because they attend cases which physicians do not want to attend, and in which trained nurses can not be employed. The institution being a necessity, therefore, we should undoubtedly regulate it legally. The number of cases that would be treated by midwives can be considerably lessened, I believe, if special care is taken by the managers or superintendents of maternity hospitals to separate carefully pregnant women who are married from those who are not married; the fact that a woman is poor does not mean that she is blind to the association with a woman who is not of the same character.

Dr. Walter P. Manton, Detroit: For a good many years I have been chairman of a committee on the examination of midwives, in the Detroit Board of Health, and have come into contact with a great many of these people. We have no particular laws, and are practically helpless, but we are hoping to get a law through the next legislature governing the matter.

IDIOCY AND HEREDITARY SYPHILIS

STUDY OF 204 CASES WITH THE SERUM DIAGNOSIS TEST*

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[BLOOD TESTS BY DR. NOGUCHI, ROCKEFELLER INSTITUTE]

The present study was undertaken to obtain positive knowledge of the proportionate relationship between syphilis in the progenitor and idiocy in the offspring. Wassermann and Plaut[1] first demonstrated by the serum reaction test the connection between syphilis and some of the psychoses, while Stertz[2] showed further by the same method that inherited as well as acquired syphilis can produce disorders of the nervous system. It has long been recognized that syphilis plays an important rôle in the causation of idiocy and the arrest of brain development. The exact percentage, however, could not be ascertained, until the application of the phenomenon of complement fixation made it possible, since which definite positive serum reactions have been found in idiocy, imbecility, epilepsy, dementia præcox, and nearly all cases of general paresis; while the utilization of the test is of daily occurrence in all diseases, of whatever nature, in which syphilis is suspected; and the test is found to be a very trustworthy one for syphilis when made under certain conditions.

Among idiots we are quite unable, from signs, symptoms or history alone, to gain the slightest clue, in most cases, as to the presence of syphilis. Statistics, therefore, obtained from such data are unsatisfactory and more or less unreliable. In German clinics percentages have ranged from 11 to 23 per cent.; in other miscellaneous clinics, including English figures, from 0 to 2 per cent. Figures on the frequency of congenital syphilis in general are fragmentary. Power and Murphy[3] state that in 4,830 out-patient children under 10 years, seen at the King's College Hospital, there were but 29 cases of undoubted syphilis, or 0.6 per cent.; and if suspicious cases were included in this estimate the percentage would be brought up to only 1.5 per cent. That these figures give no idea of the actual frequency of congenital syphilis appears from statistics of foundling hospitals, which show the high mortality of the disease in early life. Thus at an institution at Moscow it was recorded, about 1870, that of 2,038 syphilitic children 75 per cent. died within the first six months of life; while of actual syphilitic births over 80 per cent. are still-births, according to Hyde of Chicago, and the great number of syphilitic abortions is well known.

Lippmann[4] of Munich is the only one so far who has
imposed 0d a definite number of serum tests in idiots,
legally en Raviart, Breton and Petit examined a few cases
states with reaction in the blood. Lippmann applied the
such as de juvenile idiots at Uchtspringer and got a posi-
indescribable n in seven, or 9 per cent. of the cases. These
of whose bag a much lower percentage than that found
rics, an impor Heubner and Ziehen, but notably higher
slay and kill wi r cent. of certain other men. He next
are, which are e tested the material at Dolldorf and found 13.2 per cent. positive.

It has been settled that in persistent hereditary syphilis the reaction may disappear in time and that it is modified by treatment. Lippmann therefore investigated, for clinical evidences of syphilis, the material which had not given a positive reaction, and claimed from this, and historic evidence, a final percentage of 33.8 per cent. This seemed to me such a high percentage in comparison with what all other clinical evidence had shown that an independent inquiry into the whole subject was deemed worth while, especially as such an inquiry was calculated to throw light on the etiology of the disease.

Specimens of blood, about 2 c.c. in each case, were obtained from 204 idiots of low grade, in my service at the New York City Children's Hospital and Schools, Randall's Island. The Wassermann-Noguchi[5] test as made at the Rockefeller Institute by Dr. Noguchi[6] or under his direction. The 204 idiots selected were all of low grade. Eighty-eight of them were girls and 116 boys. A rough classification of the cases is shown in the following list:

CLASSIFICATION OF THE 204 LOW-GRADE IDIOTS TESTED

Idiopathic idiots	120
Diplegics	47
Hemiplegics	7
Epileptics without paralysis	13
Hydrocephalics	5
Microcephalics	6
Cretins	2
Myxedematous	1
Amaurotic family idiocy	1
Idiocy with cerebellar ataxia	2

Several (4) of the patients were blind, and several (4) mute. There were other physical disorders, not syphilitic, in other cases.

AGES OF THE 204 PATIENTS TESTED

Under 5 years of age	13
Between 5 and 10 years of age	34
Between 10 and 15 years of age	62
Between 15 and 20 years of age	31
Between 20 and 30 years of age	25
Between 30 and 40 years of age	22
Between 40 and 50 years of age	9
Over 50 years of age	1
Unascertained (adult)	7

It will be seen from this list that 140, or over two-thirds of the aggregate, were under 20 years of age.

Positive tests were obtained in 30 of the total 204 cases, or 14.7 per cent. Of these patients, 20 were females, being 22.7 per cent. of the 88 females examined, and only 10 were males, being 8 per cent. of the 116 males examined.

All of the positive seroreactions were in idiots under 40 years of age, divided as follows:

AGES OF THE 30 IDIOTS WITH POSITIVE SEROREACTION

Under 5 years of age	1
Between 5 and 10 years of age	7
Between 10 and 15 years of age	7
Between 15 and 20 years of age	6
Between 20 and 30 years of age	6
Between 30 and 40 years of age	3

It is interesting to note that the reaction had not disappeared even at so late a period as the ages of 34, 35 and 37 in three positive cases; also, that stigmata of syphilis appeared in only four of the total thirty cases with positive serum reaction.

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new-born babe are der Cerebrospinalflüssigkeit von Paralytikern,
hr., 1906, xxxii, 1769.
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civilization advanced Ueber den Zusammenhang von Idiotie und
Wchnschr., Nov. 23, 1909
these carriers of disease

e New York Neurological Society, May 10, 1910.

5. Noguchi, Hideyo: Serum Diagnosis of Syphilis, J. B. Lippincott Company, 1910.

6. I am under great obligations to Dr. Noguchi and his assistant for the laboratory work.

CLASSIFICATION OF THE 30 IDIOTS WHO SHOWED A POSITIVE SEROREACTION, WITH PERCENTAGES OF EACH FORM

	Positive.	Total.	Percentage.
Idiopathic	13	120	10
Diplegics	11	47	23
Hemiplegics	2	7	28
Microcephalics	1	5	20
Epileptic without paralysis	1	12	8
Cerebellar ataxics	2	2	100

Still further analyzed, one of the diplegics with positive reaction was epileptic, one hydrocephalic, and one epileptic with mutism. One of the cerebellar ataxic patients was microcephalic, and one of the diplegics was blind. One out of four deaf-mutes showed a positive seroreaction. The myxedematous idiot, the two cretins, and the patient with amaurotic family idiocy showed negative reactions.

The percentage of positive reactions found was much greater, in proportion, in idiots with superadded gross organic brain defect than that found in idiopathic idiocy.

The great frequency with which a positive reaction was found in diplegics (over 23 per cent.) would seem to warrant one in believing that there are other causative lesions to be sought for in these cases than those which result simply from trauma or asphyxia; causative lesions, due to syphilis, such as for example an imperfect development of the vascular system. The subject is worthy of careful study and investigation. At any rate, 14.7 is certainly a sufficiently high percentage of positive cases to warrant the suggestion that every case of idiocy should have a serodiagnosis test to ascertain whether syphilis is a factor in its etiology; and something might also be accomplished, in the way of prophylaxis, as suggested by Lippmann, by applying the test to pregnant women in the lying-in and gynecologic hospitals. The importance of this suggestion is enhanced by the statement of Baisch that in women three-fourths of the cases of syphilis are latent. In other words, Baisch obtained positive seroreactions in women three-fourths of whom presented no clinical evidence whatever of syphilis. Aside from the opportunity of treating the mother, an inunction cure of the infant after birth, is often attended by striking success. Many cases of marked improvement are on record in which the mercurial treatment of mental defectives was employed. The indiscriminate specific treatment of all cases of idiocy, as in some cases of the clinics abroad, without a careful preliminary blood test in each case, can scarcely be recommended, as the use of mercury or of the iodids, when not directed with a definite purpose, is capable of considerable harm on account of conditions of malnutrition in the little patients.

I shall undertake further studies relative to treatment, and to the frequency of hereditary syphilis as an etiological factor in imbecility and feeble-mindedness.

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Yeast in Treatment of Vulvar Pruritus in Diabetics.—P. Carnot describes in the *Progrés Médical*, 1910, xxxvii, 307, his success in curing chronic vulvar pruritus in diabetics. Besides general and dietetic measures, hot local applications and the *x*-rays, he found that the best results were obtained by preventing prolonged contact of the glycosuric urine with the irritated parts. This he accomplished by lotions and vaginal injections of brewer's yeast, a tablespoonful of fresh yeast in a quart of water. In a recent rebellious case the yeast applications alone, twice a day, put an end to the pruritus remarkable for its intensity and tenacity. He recommends this yeast treatment for various forms of diabetic disturbances; the yeast removes the residual sugar in the urine by fermentation, replacing it with a weak and tonic alcohol solution.

THE RÔLE OF OTOLOGY AND RHINOLOGY IN PREVENTIVE MEDICINE[*]

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The otologists and rhinologists of this country have, I believe, a decided opinion that the ear, nose and throat have a rôle in the etiology of many general diseases, contributing directly in certain diseases and indirectly in others. Specific citations will be offered in the discussion of this important subject.

FUNCTION AND PATHOLOGY OF THE NOSE

The nose is both a respiratory and an olfactory organ. As a respiratory organ it prepares the air for the lungs, filters it, warms and moistens it. The normal mucus secreted from the nose, in addition to furnishing moisture for the inspired air, is a factor in digestion. It is especially true that gastro-intestinal disorders are not uncommon in very young children suffering from diseases of the upper air passages, and are due to putrefactive changes from the action of bacteria on the intestinal mucosa rather than on food particles.

Nasal stenosis produces a distinct reversal of Nature's method of respiration, that is, mouth-breathing, which when once forced on the individual, predisposes to general lowering of the resistance of the body, mental apathy, destruction of the blood cells, and diseases of the lungs. Individuals with obstructed nasal passages working in a dust-laden atmosphere are more prone to the various forms of pneumonoconiosis than are those with normal noses.

Olfaction is an important physiologic function of the nose, directly influencing the sense of taste, both of which govern the ingestion of suitable foods for the maintenance of the body. Alteration in the sense of smell may directly affect the general nervous system or *vice versa*. The sense of smell is essential in certain occupations, and many industrial diseases, such as alcoholism, dementia præcox in musk workers, insanity, etc., are due to these occupations.

Hypersensitive points in the mucosa of the nose as etiologic factors in hay-fever and asthma are too well known to require other than passing notice. According to Professor Killian, these points are the anterior end of the inferior turbinate, the front part of the septum, the lateral wall of the nose, above the anterior end of the middle turbinate, and the upper end of the septum about the tubercle. The cure or relief of such irritation is in cauterization of these points with the actual cautery or trichloracetic acid. There is a form of nasal turgescence, vasomotor in character, simulating hyperesthetic rhinitis, which is dependent on a neurotic temperament, which in turn is irritated by exhausting mental work, sexual excitement, alcoholic indulgence and gastro-intestinal disorders.

The influence of acute or chronic suppuration of the nasal sinuses is especially far-reaching. There is an intimate venous anastomosis between the roof of the sinuses of the nose and the meninges and brain, sometimes producing meningitis, thrombophlebitis and intradural abscess, and predisposing to mental apathy, ocular and aural affections, bronchial and gastro-intestinal disorders. Sometimes, in a chronic suppuration of the sinuses, a dehiscence may exist in the roof of the sinus which permits the direct extension of infection to the meninges and brain. The effect of inhalation of foul odors, often observed in patients suffering from a chronic suppuration of the sinuses, is certainly irritating to the lungs and nervous system. In these cases there is a low form of auto-intoxication present all the time.

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[*] Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

The early local treatment of acute suppuration of any of the sinuses consists in the reduction of the swollen mucous membrane and establishment of free drainage, both of which are very essential. The early surgical interference in all chronic suppuration in the nose is most important. By such interference ozena, atrophic rhinitis, systemic disorders, and diseases of the lower air-passages are prevented.

Catarrhal inflammation of the skin, vasomotor erythemata, and angioneurotic edema may accompany, or alternate with, an acute inflammation of the nasal mucosa.

Leprosy, lupus erythematosus, lupus vulgaris, tuberculosis, rhinoscleroma and anthrax have a predilection for primary origin in the nose.

"Many of the infectious diseases, such as scarlet fever, smallpox, measles, diptheria, pneumonia, grip, meningitis, typhoid fever—due to infected dust—plague from an abrasion of the skin or mucous membrane and infection with the *Bacillus pestis* of Kitasato, and gastro-intestinal disorders, have their origin and atria of infection in the nose and nasopharynx. The nose of a healthy individual may possibly be a carrier of infectious diseases. This infection is more often carried through the air from the nose and throat of one individual to another than by the skin, and by hygienic measures could probably be prevented from securing a new foothold. We know that it is a matter of daily observation that many of the so-called catarrhal fevers respond much more rapidly when attention is given to frequently cleansing the nose and throat with mild alkaline douches and sprays. In scarlet fever and measles many of the severe angiotic and aural symptoms are likewise mitigated."[1]

The prevention of many of the diseases enumerated depends on the application of the rules of hygiene, that is, frequent cleansing of the nose with mild antiseptic and alkaline solutions, free nasal drainage, and good general hygienic surroundings. It is, I think, quite true that both measles and scarlet fever are carried from the nose and throat of an infected individual. The condition of the nose and throat should govern the time of the isolation of the patient, rather than the appearance of the skin, and authors go so far as to express the belief that the skin lesion in scarlet fever is a sequence of the toxemia, which has its origin in the nose and throat. The many cases observed lead me to say the same thing of measles.

The fact that the nose (also the throat) is a carrier of the bacillus of diphtheria is well known. Unfortunately, no cleansing agent is known which possesses sufficient potentiality, in the strength endured by the nose, to destroy the organism. In the discussion of this subject, a very important point to remember is that a latent infection of the nose with the bacillus of diphtheria requires additional infection from a new organism to start an active inflammation. Therefore it is advisable to isolate for a short time cases of simple sore throat, especially in children.

FUNCTION AND PATHOLOGY OF THE TONSILS

The function of the faucial tonsils and of adenoid tissue which is found in the vault of the pharynx in most children at birth, is as yet imperfectly understood. That the tonsils sometimes allow bacteria to enter the tonsillar epithelium and lymphatic channels of the neck and also that they sometimes prevent the entrance of bacteria into the lymphatic channels, are undisputed facts. It may be that in a healthy tonsil bacteriolysins and antibodies are produced in sufficient quantities to neutralize any bacteria or bacterial products which may penetrate the crypts or surface epithelium, thus preventing constitutional infection. In many cases some local or general condition may so irritate the tonsils as to allow infection to enter the epithelium or lymph-stream, producing local or general symptoms. There is a direct connection between the cervical lymphatics and the tonsils, and it is probably by this avenue that general infection spreads from the tonsils through the body, supplemented sometimes by the blood stream. It is observed that hypertrophied cervical lymphatic glands have a tendency in most cases to disappear on the removal of the tonsils in their capsule. *The size of the tonsils has nothing to do with cervical adenitis and general infection.* A small cryptic tonsil of a degenerative type is usually more productive of adenitis and general infection than large pedunculated tonsils, whose greatest harm is interference with normal respiration.

THE TONSILS AND TUBERCULOSIS

The question of the relation of the tonsils to tuberculosis is very important and the great majority of laryngologists believe that a relation exists. It is a reasonable presumption that the bacillus of tuberculosis may be found in the epithelium or in the crypts of the tonsils in a majority of cases of pulmonary tuberculosis. This, however, argues nothing. When we find evidence of tubercle bacilli in the tonsils, and swollen cervical glands, tuberculous in character, without observable lung involvement, the evidence is quite conclusive that the tonsil is the portal of infection. It is the opinion of Jonathan Wright, who is probably the greatest authority among laryngologists in this country, that "tuberculous cervical glands at the angle of the jaw are almost always secondary to primary tuberculosis of the tonsil." (G. L. Richards.)

From personal experience I do know that not infrequently patients have come under my observation suffering from the general symptoms of incipient tuberculosis, that is, loss of flesh, general apathy and elevated temperature, in whom the tubercle bacilli were found in the cheesy deposits of the tonsils, and immediately after complete removal of the tonsils in their capsule, all the symptoms disappeared, with speedy restoration of the individual to health. I have also observed marked benefit to follow the removal of tonsils in cases of pulmonary tuberculosis in the early stage, in which tubercle bacilli were easily demonstrated in the sputum. Some patients apparently recovered. These patients gave a history of recurrent attacks of tonsillitis or irritation in the tonsillar region.

The direct connection of the cervical glands with the apices of the lungs makes it comparatively easy for the tubercle bacilli to seek the point of least resistance, which is the apex of the lung in many cases.

In those cases of apparent localized tuberculosis of the larynx, the removal of hypertrophied or ragged tonsils, which usually accompany such a condition, is marked by a cessation of many of the local symptoms.

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[1] Kyle: The Social, Hygienic and Economic Aspect of the Nose, Laryngoscope, January, 1910.

A diseased tonsil, that is, one which is subject to recurrent attacks of tonsillitis, or in which the crypts contain bacteria, adds to an already existing pulmonary tuberculous infection sufficient new bacterial poisons to stimulate inflammation or to flame into activity a slumbering localized ulceration in the lungs. It therefore seems reasonable to me that in all suspected cases of pulmonary tuberculosis the tonsils should be inspected, and if possessing the slightest evidence of possible irritation, should be removed in their capsules. I think it is fair to say that simple tonsillotomy in such cases is an obsolete operation. The crypts of the tonsils extend to, or very near, the capsule, and a partial removal of the tonsil will do no good. The tonsils must be completely removed, thus sealing up the lymph-ducts which have their beginnings in the capsule or gland proper.

THE TONSILS IN RHEUMATISM

The rôle of the tonsils in the etiology of acute articular rheumatism has many advocates among laryngologists, and the majority, I believe, recognize a close relationship between acute tonsillitis and rheumatism. I have observed a number of cases of acute tonsillitis, follicular in character, which were followed by acute or subacute articular rheumatism. A few weeks ago I removed the tonsils of a young man who had suffered from six attacks of acute articular rheumatism, each following an attack of tonsillitis. It is, of course, too early to prognosticate the possibility of a return of rheumatism in this case. Other observers have reported an improvement in the rheumatic condition, acute or subacute, after the removal of the tonsils, very suggestive proof that the tonsils in a great many cases are an etiologic factor in acute rheumatism.

TONSILS IN OTHER AFFECTIONS

Many conditions such as endocarditis, meningitis, nephritis and appendicitis are reported as probably originating from a disease of the tonsils in certain specific cases. Such reports are not especially valuable, however, as the infection of the tonsils and the other organs at the same time or at a short interval, may have been only coincident. I believe, however, that there is good reason to suspect the tonsils, provided the diseases as cited above, follow in the wake of acute suppuration in the tonsils. The character of the infection in the tonsil evidently plays an important rôle in causing the spread of the disease and metastatic foci may be anticipated in cases of streptococcic infection.

PREVENTIVE MEASURES

Since the tonsils are a possible menace to the general economy, it would be better, I think, to remove at the earliest possible time those tonsils which are hypertrophied whenever observed in young children to produce mouth breathing, and if the cervical glands are enlarged even small tonsils should be removed. In young and old that form of tonsil known as degenerative, in which the crypts are filled with a cheesy deposit and are subject to recurrent attacks of irritation, should be removed.

ADENOIDS

Adenoid tissue in the vault of the pharynx plays a part in causing cervical adenitis, though not so important as diseased tonsils. Acute inflammation of adenoid tissue occurs more often in young children. Adenoid glands sometimes have within their folds a cheesy deposit resembling that which is often observed in the tonsils. The drainage from adenoid tissue is much better than that from the tonsils and in consequence, inflammation of an active type is less frequently observed than in the tonsil. Inflammation and hypertrophy of the tissue in the vault of the pharynx predisposes to recurrent attacks of postnasal infection, deformities of the face, mouth breathing, deafness, Balnes' cough or nocturnal cough, infectious diseases, and, as pointed out by Ponthiere, Sydenham's chorea.

Bronchoscopy has opened up a new field for the better understanding of diseases of the trachea and bronchi. Some obstinate cases of asthma, which have defied all forms of treatment, have been reported as entirely relieved by application direct to the mucous lining of the bronchi. In addition, tumors of the trachea are sometimes treated as bronchial asthma, and a diagnosis can be established only by this method of examination. The presence of cicatricial bands in the bronchus, with partial or complete consolidation of the lungs, can by this method be established and thus empirical treatment of the lungs be prevented.

THE EAR IN GENERAL DISEASES

The rôle of the ear in general diseases is well established. A progressive deafness with or without tinnitus, is especially important as an etiologic factor in general nervous exhaustion and many functional nervous disorders. Dr. Clarence Blake,[1] the dean of otologists in this country, says in regard to this subject:

> Few intelligent observers outside of the very deaf themselves, or those who have to deal much with persons so afflicted, can appreciate the profound exhaustion resulting from the effort to compensate for a deficiency in this particular line of communication with the outer world, in the person whose perception of that mode of motion to which we give the name of sound was once made without appreciable effort, and who has, under conditions of impaired hearing, first of all, to make an effort to hear, and, in default of hearing, an effort to appreciate vocal utterance by watching the motion of the lips of the speaker; and finally, in default, either through lack of perceptive power or through ability only to catch consonant sounds which are formed in front of the mouth, to solve the puzzle of the spoken sentence by filling in the missing consonant sounds, or, inadequately seen, from the appreciable context of the sentence; so that where once understanding came without effort, three distinct and appreciable brain-efforts are required: first, to hear; the second, to see; and the third, to understand.

In arteriosclerosis, the ear symptoms are sometimes the first to call the attention of the observer to this insidious and intractable disease.[2]

> "The ear symptoms which should direct our attention to a local or general circulatory disturbance, are unilateral or bilateral tinnitus, slight and progressive deafness, loss of air and bone conduction, dizziness, sometimes early in the disease, and in the later stages of the disease, sometimes hallucinations of hearing. The ear symptoms necessarily vary according to the extent of the sclerosis."

Another symptom belonging to the internal ear which is important in many diseases, is vertigo. Vertigo may or may not be associated with nystagmus, and may be continuous or alternating in character. If alternating, it may be said to be due to an explosion, as it were, in the center of equilibration situated in the cerebellum or semicircular canals, and is probably functional in character, and due to circulatory disturbances or gastro-intestinal disorders. If continuous, it is probably due to a destructive change in the center of equilibration or semicircular canals, which may result from a tumor or suppuration. Impressions producing functional vertigo travel to Deiters' nucleus by the spinal vestibule tract, the cortical vestibule tract or associated fibers of the cranial nerves.

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[2] Kyle, J. J.: A Study of Ear Symptoms in Arteriosclerosis with Special Reference to the Labyrinth, Annals of Otol., Rhinol. and Laryngol., June, 1907.

Vasomotor ataxia, local in character, may occur about the auricle and adjacent structures from irritation of the different ganglia of the ear, causing hives, herpes, simple erythemata and sometimes angioneurotic edema, and we must be careful not to class such skin conditions as the local expression of a mastoiditis.

A suppurating ear as a cause of metastatic abscess in the brain, lungs, or liver is so well known that I need not dwell on this feature of the subject further than to remark that too often a general septic thrombophlebitis is attributed to some general infection rather than to a condition originating in a suppurating ear, which is only taken into consideration after the disease is well established and beyond surgical interference. A chronic suppuration of the ear is certainly a menace to life, and any rise of temperature or slight pain in the region of the ear affected should, in the absence of a distinct cause, be looked on with grave suspicion as orginating from the ear.

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ABSTRACT OF DISCUSSION

DR. ROBERT LEVY, Denver: Frequent examinations of the ear during cases of scarlet fever, measles, etc., should be a routine measure; and one often is rewarded, after such an examination, by detecting a redness or a bulging of the membrana tympani that indicates the otitic involvement. Early relief by a free incision will often prevent a permanent discharge from the ear and a consequent deafness through the rest of this patient's life, not to speak of complications such as mastoiditis, etc., which we all recognize as a consequence.

I would also like to impress, perhaps emphasize, what Dr. Kyle has said with regard to the size of the tonsil as indicative of disease of this organ. The most dangerous tonsils to the welfare of the patient are those that are submerged; those that are not prominent and that can only be examined thoroughly by drawing forward with a retractor the anterior pillar!

Now, as to the finding of tubercle bacilli and tuberculosis in tonsils with cheesy discharge, my experience has not been in accord with Dr. Kyle's. It has been my experience that the demonstration of tubercle bacilli in tonsils and in these various discharges from the tonsils is an extremely difficult matter. I mean difficult, not from a technical point of view, but from the fact that they do not exist there; and even if they do exist, tubercle bacilli found in the crypts of the tonsils are not evidence of tuberculosis. They are there simply as they are in the nose; and we know that in the vestibule of the nose one finds not only tubercle bacilli, but other micro-organisms after contact with patients having the specific diseases. After your visit through a ward of diphtheria; after your presence in a tuberculosis hospital for any length of time or after treating many throats, you can demonstrate the presence of micro-organisms that are entirely inert so far as you are concerned; and so one must be careful how one defines tuberculosis of the tonsils in cases in which tubercle bacilli are demonstrated; at the same time, it is a fact that there may be histologic changes, the tonsils indicating the development of tuberculosis without being able to demonstrate the presence of the tubercle bacilli.

With regard to the removal of tonsils in its relation to the development, or to the recurrence, of rheumatism, I might say that occasionally one finds that immediately after enucleation of the tonsils a very severe attack of acute rheumatism develops. I have seen such instances; and I have also seen the development of a very intense chorea immediately after the removal of tonsils. In one instance the patient's rheumatism was followed by an endocarditis and a permanent heart lesion. In all of these instances, the operation was blamed for the result. I was the operator, and I have not to this day been able to assure these people that the operation was not directly the cause; but as a matter of fact, the operation did have a bearing. I believe that acute tonsillitis is a local manifestation of an infective micro-organism, which micro-organism is also the cause of rheumatism; and that the tonsils acting as portals of infection for this micro-organism, retaining this micro-organism in its passage into the cervical lymphatics, and then into the system generally, such tonsils take on an initial inflammatory condition which we term acute tonsillitis. And so, if a tonsil is infiltrated, as it were, with micro-organisms causing specific infection such as rheumatism or chorea, the attack on that tonsil by an operation brings about an intense virulence of the micro-organism, followed by absorption of the micro-organism and the resulting general rheumatism, chorea, or endocarditis.

DR. H. W. HILL, Minneapolis: I hear the term "vicious tonsils." I should like to know if there are any tonsils that are not vicious. I am constantly asked that question: Should not a child's tonsils be removed in any case?

DR. J. J. KYLE, Indianapolis: As to the question whether or not, or when, the tonsil shall be removed, especially in young children, I should say if a tonsil is hypertrophied and obstructive to breathing I would recommend its removal. In the young child suffering from cervical adenitis and inanition, I would recommend the removal of the tonsils. In the young child with simple hypertrophy of the tonsils without any obstruction to breathing and without any enlargement of the cervical lymphatics, I would leave the tonsils alone. A tonsil may possess some function that we do not quite understand; and with the presumption that it has a function, I can not see the excuse for always removing it.

NASAL DIPHTHERIA*

DUNBAR ROY, A.B., M.D.
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Malignant diphtheria is an exceedingly serious condition with which to contend and complications of a grave nature are comparatively infrequent. The introduction of antitoxin as a routine method of treatment has reduced very markedly the malignancy of this disease making the gravest cases more benign. In fact the custom of resort to antitoxin on the very first decidedly suggestive symptom of diphtheria is so universal that statistics show the frequency of this dreaded disease to be greatly minimized. The proper management of a case of diphtheria is supposed to be a knowledge possessed by every competent physician and yet there are complications not mentioned in text-books which sometimes arise which try the skill of the most experienced clinician. A case of this kind some time ago came under my observation.

CASE 1.—*History.*—On Sunday night, Oct. 8, 1905, I was called by telephone to a near-by town, with instructions to come prepared to operate on a tonsillar abscess. I arrived about 11 p. m. and was met by the physician in charge who gave me the following history. The patient, a boy 9 years old, on returning from Atlanta two weeks before, had been taken sick with an attack of tonsillitis. Both tonsils were involved but the left became abscessed, broke and discharged a very foul pus. This continued intermittently as the throat became better, and the patient seemed to be gradually improving. On the morning previous (Saturday) the patient began to have stridulous breathing in the larynx, which continued with increased severity. The temperature at no time had been higher than 102. He had suffered with two hemorrhages from the nose, the last one having occurred the night previous and was checked with great difficulty. Nourishment had been taken throughout the sickness.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Examination.—The patient was lying asleep on the bed but could be aroused without difficulty. The breathing was entirely through the mouth and seemingly unobstructed as an examination showed the air to be passing freely into the lungs. The lips were dry and clotted blood could be seen at the nasal orifices. The face was pale and expression anxious; lids very much swollen; temperature 99 and pulse 120. With reflected light an excellent view could be obtained. On the left tonsil there was a large greenish-yellow patch, gangrenous-looking and bleeding on the slightest touch. The same but less in extent was on the right tonsil, the pharynx, and extending into the nasopharynx. The nasal cavities showed the same character of the membrane at that point. The larynx was very little affected. The odor was exceedingly foul and offensive. The submaxillary glands were enlarged. Auscultation showed that air was passing freely into the lungs. The child was evidently saturated with poison, as manifested by every appearance.

Course of Disease.—Diphtheria had not been suspected until that morning when 2000 units of antitoxin were given. The system showed clearly a case of gangrenous diphtheria and the only question was, whether the body had sufficient strength to throw off the poison which was already overwhelming the system. Five thousand units of antitoxin were immediately given, injections of strychnin and the swabbing of the throat with hydrogen peroxid were also continued. The patient's pulse was strong but of high tension. He slept at intervals. About 3 a. m. the nurse called me from an adjoining room on account of a severe nasal hemorrhage. With cotton plugs, epinephrin solution and other adjuvants the hemorrhage was finally checked after one hour's work. The patient was becoming very weak and at times seemed to gasp for air. The laryngeal breathing becoming decidedly obstructed, I intubated, which immediately brought temporary relief, but only for a moment, as the nose again began to bleed both anteriorly and posteriorly so freely that the blood went into the larynx before we suspected what was happening, filling up the intubation tube and cutting off the air. Before I could get instruments for tracheotomy and while I was keeping the child's head down, the patient died.

This proved to me an exceedingly interesting although unfortunate case in that such complications as severe and almost uncontrollable epistaxis could not be found mentioned in text-books and other writings at my command. Experience is sometimes a valuable although a sad teacher, and should I ever be so unfortunate as to be called in a similar case, a different management would most assuredly be adopted. In the first place, although I recognized that the patient was extremely septic and probably would have died even had not the complications arisen, still I did not realize then the gravity of such a symptom as severe epistaxis, which in the end was the real cause of death. When one realizes that the nasal mucous membrane is covered by a gangrenous deposit, which when dislodged will leave a surface from which it is exceedingly hard to check the hemorrhage, then one will realize that a bleeding from the whole surface is an exceedingly grave complication with which to contend. Every plug introduced into the nasal cavity only makes the bleeding worse, for the very force of its introduction uncovers a new surface and a new point for hemorrhage. Besides the nasal cavities and the nasopharynx in cases such as the one described are filled with the membranous exudate which in itself will almost occlude these cavities. Epenephrin solutions must remain as the surest and best remedy in these cases. The proper course to pursue would have been to perform tracheotomy just as soon as the case was seen and the true nature of the pathologic condition was recognized, especially since there was a history of a severe epistaxis on the day previous. Only in this way could we have been in a position to manage a severe hemorrhage should it occur. If necessary the mouth, nasopharynx and nasal cavities could then have been plugged and the hemorrhage have been properly managed.

Another point impressed on me by the history of the case was the fact that in all cases of diphtheria complicated by severe epistaxis, tracheotomy is preferable to intubation because if bleeding should occur posteriorly without the knowledge of the attendant and if the blood should run down into the larynx, the tube could immediately be obstructed by clotted blood.

Fortunately such extreme cases as the one here reported do not often occur and I readily believe that had the case been diagnosed earlier and antitoxin administered from the start, the outcome might have been much more satisfactory.

While we have been discussing a case of nasal diphtheria, acute in character and extending up from the nasopharnyx, I cannot refrain from mentioning those cases of nasal diphtheria which might more properly be designated as chronic in character.

During the last two winters I had under my care five cases of this condition. They occurred in children aged from 5 to 10 and presented the same characteristic features. Two of them were in brothers who had been going to public schools continuously, although the history of these cases showed the disease to have been present for weeks. Some authors speak of this condition as membranous rhinitis, and clinically this certainly seems to be an appropriate term.

The symptoms in these cases are very similar. There are practically no constitutional manifestations so far as temperature is concerned, and but for the local symptoms the little patients rarely experience any discomfort.

Helot,[1] however, has reported two cases of nasal diphtheria in one of which there were severe general symptoms; but this must be classed with those more acute in character.

One of the first symptoms noted is persistent nosebleed, and this is probably the first sign to which the parents' attention is called.

McKee[2] reports several cases of nasal diphtheria and has this to say in reference to the importance of epistaxis in the diagnosis of nasal diphtheria:

> 1. Staining of the nasal discharge with blood is quite commonly seen in nasal diphtheria and epistaxis of moderate severity is not unfrequently observed.
> 2. Nosebleed is a symptom of much diagnostic value, for it may suggest the possibility of nasal diphtheria in any case, but particularly in the dangerous (to the community) mild cases. Among causes of epistaxis, diphtheria of the nose should be accorded a separate and prominent place.
> 3. In malignant, mixed infection with streptococci and diphtheria bacilli (Northrop) in the nose, epistaxis may be most alarming and may be even the immediate cause of a fatal termination.

In addition to the above the child will seem to have a bad cold in the head, some mild purulent discharge from the nose and possibly enlargement of the submaxillary glands. On rhinoscopic examination one will find a distinct membranous deposit on one or both sides, which, with the attendant swelling, will almost completely block the nasal passage. At the mucocutaneous margins, crusts and abrasions will be present show-frequently membranes existed in the nose, causing few or no symptoms. In my opinion, hemorrhage should be controlled by applying a small compress to the bleeding point, with the addition of styptics when necessary, but if this does not suffice the nose should be tamponed. It is true that after the removal of the dressing there may be bleeding, for this reason great care should be exercised in its removal. In these cases paraffin gauze as described by Williminski, makes a suitable tampon.

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[1] Helot: Ann. d. mal. d. l'oreille et du larynx, June, 1903.
[2] McKee: Therap. Gaz., March 15, 1904.

Dr. Bryan D. Sheedy, New York: After an experience of about twenty years, in which I have treated a large number of cases of diphtheria, both nasal and laryngeal, I would not do a tracheotomy in cases such as Dr. Roy described. I believe that most cases of nasal diphtheria are over-treated. Antitoxin is practically our sole anchor in such cases, and I believe a case of nasal diphtheria that manifests marked symptoms should be treated energetically with antitoxin in large doses, the local treatment, other than instillation of mild antiseptics, being practically neglected. Patients suffer more from septic symptoms when the membrane is removed than when it is allowed to go untreated. I would advise strongly against tracheotomy except as a last resort, and in my experience the results have been about the same whether tracheotomy was performed or not.

Dr. C. M. Miller, Richmond, Va.: I have seen several of these cases of chronic diphtheria which have interested me a great deal. All of them were brought to me with the diagnosis of a foreign body in the nose. The other day a physician came to me with such a case. The discharge was in all the cases unilateral; in one child of 2½ years it had persisted five weeks; in another child of 8, for eight weeks, so far as the physician could determine. Each of these patients had an excoriated lip from the discharge. Protests were made when I attempted to take a swab. The physician said they never heard of such a thing as chronic diphtheria of the nose. In one case I had to have the aid of the Board of Health to get the child isolated. The physician would not believe it until the child's father became infected. In another case in a neighboring city, strong protest was made when I wanted to take a culture, and that child infected eighteen others. As to anything else but antitoxin, it seems to me it is out of all reason to use anything else. As long as twenty years ago, when I was a medical student, we were taught that the membrane readily returned after being removed. Now if it returns so readily, why should we remove it?

Dr. C. Jackson, Pittsburg, Pa.: I think we will all have to acknowledge having made the diagnosis of nasal diphtheria too late to save the child's life; I know I have a number of times.

Dr. Dunbar Roy, Atlanta: It is unfortunate that things get so distorted when you read a paper that when you hear the discussion you wonder what kind of a paper you have read. I did not say that antitoxin should not be used in diphtheria, or in nasal diphtheria. Of course every one knows that that is the right thing to do. I only mentioned the fact that if I had another case similar to this I would do as I say in my article. After I had tried for one hour to stop that hemorrhage I should have been in a better position if I had had a tracheotomy tube in, and if I had a similar case that is what I would do, but of course as a last resort. I do not advocate doing a tracheotomy as soon as you see a case of nasal diphtheria. But when the case is at such a point that something extreme must be done, then I do advocate it. Another point is the fact that there are many patients with this chronic nasal diphtheria going around without any actual symptoms existing, but able to cause the disease in a virulent manner in other children and adults. I have seen a number of such cases in children between the ages of 5 and 10.

The Insanity Dodge.—Dr. J. J. Walsh says: 1. The term insanity is so vague that its use as a plea to enable the criminal to escape punishment is not justifiable. 2. Responsibility is never quite eliminated except in the absolute idiot. 3. Punishment is meant to deter the individual criminal, and others tempted to criminal acts. 4. Punishment is more needed for those of lowered mentality than for the normal.

TESTS OF VISUAL ACUITY

AND CARDS FOR SUBJECTIVE CORRECTION OF AMETROPIA *

EDWARD JACKSON, M. D.
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The testing of visual acuity and the measurement of ametropia by the improved vision obtained by test-lenses are two distinct processes, which will be best carried out by different forms of apparatus. In testing visual acuity we need only to determine a single "minimum separabile," which is done most simply by finding the greatest distance at which a test of known visibility can be recognized. In the subjective measurement of ametropia we have to provide for a "minimum separabile" progressively diminishing as the accurate correction of the refractive error is more nearly approximated. This requires a series of test-objects progressively diminishing in size, such as the ordinary test-cards furnish.

STANDARD OF VISUAL ACUITY

The adoption last year at the Naples ophthalmologic congress of the report of the committee appointed at the preceding ophthalmologic congress at Lucerne to propose an international standard of normal visual acuity, with the discussions of the subject that have arisen from that report, make the present an appropriate time to consider this important subject.

The international report fixed normal visual acuity as the ability to recognize two points separated by an angle of one minute; and chose as the test of this ability the so-called "broken ring," a black circle on a white ground, the black line having a width one-fifth its outside diameter, and the break in the black ring having just its width. Such a ring, when placed at such a distance that its total diameter subtends an angle of five minutes, gives a break in the ring that subtends an angle of just one minute; and the ability to tell in what direction the break or gap is placed indicates normal visual acuity.

The principle of the "minimum separabile" and its normal value of one minute were announced and pretty well established as the proper theoretic basis for sight testing by Roger Bacon over two hundred years ago. On strict analysis it is found to underlie most of the tests for visual acuity that have been suggested since. At the Nashville meeting of the American Medical Association in 1890, I suggested the use of a black square, each side of which should subtend an angle of three minutes, with a space cut out of one side of the square subtending an angle of one minute, the test being to designate which side of the square was left open. I did not then know of the broken ring advocated by Landolt before the *Societé française d'ophtalmologie* in 1888, which has all the advantages of the incomplete square with this distinct superiority: The ring can be turned in twice as many distinct directions. The square is capable of four different positions; the break in the ring can be turned up, down, right, left, or at angles of 45 degrees, midway between those positions.

If a single broken ring, on a circular card, be shown to the person to be tested, there is but one chance in eight for him to guess correctly in which direction the gap is turned. By concealing the card for an instant and turning the ring differently the test can be repeated indefinitely; and a few repetitions will render it certain that the eye possesses the vision claimed. The test is extremely convenient for examining patients away from the office. If the position of the gap is recognized at a certain distance, the same ring can be again shown at a greater distance until the limit of recognition is reached. A single letter or line of letters cannot be used this way. Any testing of acuteness of vision can be done with such a broken ring on a circular card, that can be carried in the vest pocket, with absolute scientific accuracy. All possible errors from the patient learning the sequence of the letters used as a test and the needed precautions to prevent this are avoided.

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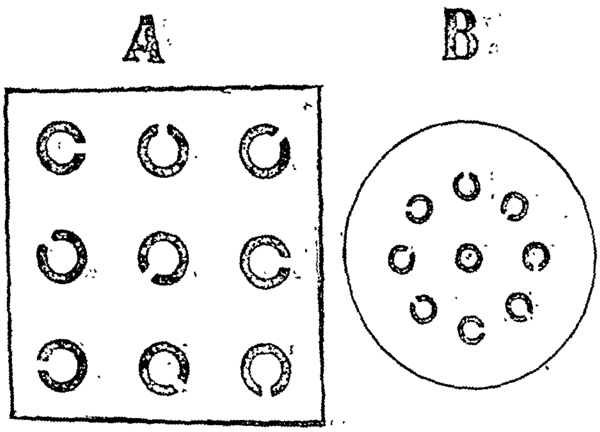
* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

For testing the vision of school children, or of men entering a transportation service, a series of broken rings may be used. The sequence of such figures is harder to commit to memory than that of a series of letters or numerals. If the rings are arranged symmetrically on a square card, as in A, either edge of the card can be turned upward. Each way gives a distinct sequence, and it is impossible for the person tested to know which sequence is being used. Or the rings may be arranged in a circle on a circular card, B, and held with either of them at the top.



International tests; A, visible at 5 meters (about 16 2/5 feet); B, visible at 2.5 meters.

With such a test-card the test of visual acuity may be repeated until certainty as to the visual acuteness has been reached. If recognized at one distance, the rings can be moved to a greater distance and tried again; things that cannot be done with test letters or numerals. Then, too, such a test can be furnished on a small card easily transported, a very important advantage where large numbers of cards are to be distributed, as for testing the vision of the school children of a county or a state.

For simply ascertaining the visual acuity the most simple and convenient way is for the person conducting the test to hold the card, and starting from a sufficient distance gradually to approach the person to be tested, noting the distance at which the direction of the break is first recognized in the ring to which attention is directed. Such a test may be explained to a whole row of children at once. Then the teacher, stepping back, can proceed to test each of them while all the others look on. The spirit of imitation and that of rivalry are brought out, to aid in overcoming the inertia, which often makes it difficult to induce a child to do his best with a new exercise of this sort.

TO MEASURE AMETROPIA

For the subjective measurement of ametropia by trials with lenses a very different test-card is necessary. The physician must be near the patient to make the needful changes in the lenses; and test-objects that are easily designated as recognized (pre-eminently letters and numerals) are far superior to any others. When we come to arrange a test-card of this kind we have to take account of the fact that the different letters or numerals are not equally easy to recognize. All who have arranged test-cards of letters have had to meet this difficulty: Snellen chose block letters because with them it was possible to approach nearer to equality of visibility. But he and others who have followed him have had to restrict themselves to the employment of certain letters; and even then they have been far from attaining a full equality.

The unequal visibility of letters, however, may be a distinct advantage in measuring refraction. As one letter after another is brought out by successive improvements in the correcting lens before the eye, the one line of letters serves to test various changes of visual acuity. Only when we attempt to use these letters to test acuteness of vision does their unequal visibility become a disadvantage, and we are compelled either to greatly restrict the number of letters employed for our tests or to introduce serious indefiniteness into our results.

A valuable study of the relative visibility of the different letters in the block-letter alphabet was made in this country by Dennett,[1] and within a few months Gebb and Lohlein[2] have reported a study made with letters, numerals and simple geometric figures of different sizes.

The essential point is that we cannot say that letters of a certain size and formation will be just recognized by the normal-sighted at a certain distance until, empirically, we have determined at just what distance they are so recognized. Wherever such objects are used to test visual acuity, it is essential to compare their visibility with that of the international standard broken ring. This is just what the International Committee did for the few letters and numerals they admitted to their test-chart. This is just what every ophthalmic surgeon can and should do with the test-cards he habitually uses. By making such a comparison and numbering the different lines in accord therewith, without any change in the test-charts we use, we can arrive at uniformity in our records of visual acuteness. But in numbering a line that contains any considerable variety of letters it must be understood that to recognize one or two letters on it means one visual acuity, and to recognize all means a higher visual acuity. It would be of practical value to note at one end of the line what vision it means to recognize two of the letters, and also to indicate what vision is necessary to recognize all, as has been done on the cards referred to below.

In the subjective estimation of ametropia by trial lenses and cards we often proceed by asking the patient whether each change in the lens makes the vision better or worse. This is true subjective testing, depending wholly on the patient's honesty and power of accurate discrimination between different visual impressions. But the method may be given much of the value of an objective method by requiring the patient to name the letters or numerals recognized from time to time, the correct naming of one before unrecognized being the best possible evidence of improved vision by a better approximation to the perfect correction.

But for this purpose the test-letters quickly lose their value, when once clearly recognized. They are correctly named from memory when less distinctly seen, and the patient's answers mislead rather than assist in

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1. Dennett: Tr. Am. Ophth. Soc., iv, 133 and 245.
2. Gebb and Lohlein: Arch. f. Augenh., liv, 69 and 189.

finding the true correction. While the vision is being improved rapidly, and the reading progresses from lines of large letters to those of smaller letters, previously quite unrecognizable, this difficulty does not trouble us. But when nearly the best vision has been reached, when the changes to be made are slight, one line of letters soon ceases to be serviceable, and the only resource left us is to change the test-card.

More series of these smaller letters are needed than of the larger letters. So it seems worth while to multiply the former, without the latter, by having test-cards containing only the smaller rows of letters, for use in the accurate subjective testing of refraction. A series of such test-cards I have had prepared. The small figures at the end of the lines indicate, according to the international standard, the visual acuteness required to recognize the letters. The figure at the right gives the distance at which the letters subtend the angle of five minutes. The figures at the left give the visual acuity required to name two letters on that line, and the visual acuity required for the recognition of all the letters on the line. The size of the letters is such that their heights subtend the angle of five minutes, at the distances of 6, 5, 4 and 3 meters, respectively (about 19 2/5, 16 3/5, 13 1/10 and 9 4/5 feet). These are the distances at which they are supposed to be read according to the Snellen scale.

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ABSTRACT OF DISCUSSION

Dr. C. H. Williams, Boston: In Dr. Jackson's paper two tests are proposed, one for the acuteness of vision, using the broken ring of Landolt based on the "minimum separabile;" the other for the improved acuteness of vision due to correcting the ametropia with glasses, and using cards with graded letters and numerals. If a doctor had an unlimited amount of time and patience, and if the patient had more accurate powers of observation and the ability to describe what he saw, it might be possible to use both these tests and get satisfactory results.

The principle of the "minimum separabile" was first proposed by Hooke a little over 200 years ago. He found that with a number of persons (taken without any refractive examination of their eyes) the minimum distance at which they could distinguish two stars was one minute. Donders in his book on "The Accommodation and Refraction of the Eye" (1864, p. 195) refers to this as the first exact appreciation of this physiologic question; and, after quoting other authorities in confirmation of this minimum distance, he goes on to say: "For practical use in those laboring under affections of the eyes, the method here laid down for physiologic objects is not applicable. In practice it is absolutely required that the person examined should give proof that he actually distinguishes, as is done by the naming of known figures, letters, numbers, etc."

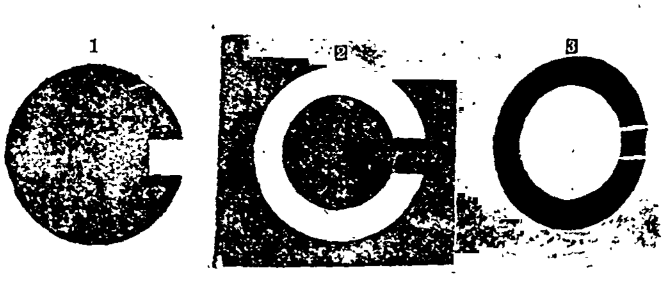
In 1862 Snellen published the first edition of his test-types made up of separate capital letters of such a size that at the distance printed above each line the letters subtended a visual angle of five minutes and the component lines of each letter an angle of one minute. He also introduced the formula $V=d/D$, in which V is the acuteness of vision, d is the greatest distance at which the letters are read correctly, and D is the distance at which the letters subtend the standard visual angle of five minutes and should be named correctly by the average normal eye. It seems very desirable that Snellen's standards and method of notation, which have proved so satisfactory for the past forty-eight years, and have been so generally adopted, should be retained. Without changing Snellen's standards, it is possible to improve his test-types in two respects, as has been done by Dr. John Green. In Snellen's types the gradation of letters is not uniform, and there are not enough lines of letters of the smaller sizes, where most of the refraction work is done.

Green was the first to propose a regular gradation in geometrical progression (*Tr. Am. Ophth. Soc.*, 1867, 1868, 1903, 1905) and to publish sets of test-letters engraved in this way, and Javal, in a paper before the Ophthal. Section of the International Medical Congress in Paris in 1900, says: "Je ne doute pas qu'avec le temps les échelles à progression géométrique proposées par Green dès 1868, ne soient universellement adoptées." This geometric series, with the common ratio of $\sqrt[3]{2} = 1.26$, was adopted by the American Opthalmological Society in 1903, and, with the ratio of 1.259, it was adopted by the *Société française d'Ophthalmologie* in 1904.

It seems to me that Snellen's letters, especially in a geometrical ratio, can be used to determine the acuteness of vision for all purposes better than any other test yet proposed. With the broken ring there is trouble with irradiation at the gap, which interferes with the clearness of definition and the location of the gap. For examinations of men in railway service the broken ring is not well designed, and unnecessary trouble would be caused by rejecting men as the result of a test with such a series of figures with which they were not familiar. The memorizing of the letters can be easily overcome by using the cards with one size of letters on each card, each size being printed in triplicate with a different arrangement of letters on each card, and such a set of letters, which I arranged according to the Snellen standard, has been used with good results on a number of the railway lines of this country for the past fifteen years.

In addition to the test-types for distant vision, we need a more accurate series of printed matter for the reading test. Few of the many series of reading test-types published from time to time will compare with the "Schrift-Scalen" of Jaeger, published in 1854, for fulness and even grading, and which, from Nos. 1 to 9, practically give a paragraph of reading matter for each visual angle of one minute from 4′ to 12′, as measured by the short lower-case letters. In 1904 a committee of the American Ophthalmological Society prepared a set of reading-test cards, which follow Jaeger's types, and give a carefully prepared series which can be noted by a slight modification of the Snellen formula, viz.: $L = d / D$, in which L (lectio) represents the reading power, d the distance (in decimeters) at which the print is read, and D the distance (also in decimeters) at which the short lower-case letters, such as c, n, o, etc., subtend the visual angle of five minutes.

Dr. F. Park Lewis, Buffalo, N. Y.: I wish to illustrate a method of determining, at the same time, the acuity of vision and refraction. My test is founded on the broken ring test, objections to which have been raised by Dr. Williams. It consists of a broken ring which by rotation may be made a completed ring. One of the chief difficulties of getting an accurate estimate of ametropia is the inability of the patient to indicate the character of the test, especially when a symbol is used, or the direction of the intercepted arc when the test is the broken ring.



Test of acuity of vision and refraction; 1, black disk with white parallelogram on edge; 2, ring with intercepted segment, which may be placed at any angle, to be placed over 1; 3, intercepted segment closed by revolving 2 over 1.

The ring with the intercepted arc made after the plan of the Committee of the Naples Congress is rotated by a cogwheel arrangement connected with a button in the hand of the patient. It consists of a white ring with an intercepted segment on a black background. The opening may be turned in any direction and is closed by rotating it over a white band of the same size which is placed under it, so that by the closure of the ring, accomplished by the patient, the acuity of vision is determined. Instead of a number of rings having broken arcs turned in various directions, one ring of each of ten sizes is sufficient, and by its rotation an infinite number of directions may be secured and an absolute determination made of the acuity of vision.

The diameter of the circle is 100 mm. and the width of the band 20 mm., leaving the desired segment a parallelogram; the measurement in each direction of which is 20 mm. Ten broken rings are employed, each of which is one-tenth less in size than the next preceding it. A duplicate of these rings is placed facing the examiner and rotated at the same time, so that he is immediately able to recognize the exact visual acuity of the patient. If there are test-colors on the outer ring and matched shades on the inner circle, the same test can be used for the determination of color-blindness.

Dr. W. H. Luedde, St. Louis: For use outside the office this device of Landolt, which I found in use at his clinic in Paris four years ago, answers the purpose very well. It is made of two cards arranged to turn one on the other. A space in each card enables the physician to bring into successive view rings of different size on the other card. If the patient recognizes one, without changing the distance, the physician can change the disc and thus dispose of one size of ring after the other until vision is determined. The larger rings on the back of each card are for very low degrees of vision. I present this as an additional convenience in this very excellent method of accurately determining the vision.

Dr. Edward Jackson, Denver: It is not proposed that this standard shall supersede our card of test letters arranged according to the Snellen standard. In so far as the Snellen standard is a standard we continue it without change. But in order to use the metric system, we do not have to confine ourselves to the whole-length meter stick. We can divide the meter into millimeters. So without departing from the Snellen general plan, we can adopt a test that is very much more accurate than any card of test letters that was ever printed. There has never been a set of test letters, no matter how carefully selected, that meets all the requirements for a standard. The different men who get out different test-cards have made different selections of letters. Whether they conform to the five-degree scale, each letter subtending an angle of five degrees, or whether they depart from it, there never was a set of test-letters that was an exact test. Now, an exact science, such as ophthalmology is, should adopt an exact test. This has been offered. With reference to familiarity with the forms, that obtains with the test letters, which renders them unreliable for comparing those who are accustomed to read much of the time with those who are not; the international standard is an important advance. The broken ring also has a distinct superiority in requiring the persons tested to give positive evidence that they do see it, by designating the direction of the break in the ring. To give this evidence does not require that the patient shall know the right hand from the left. Young children, whom we cannot get to answer the question, will indicate the direction by pointing with the hand. The particular forms of test cards shown here are more simple than either of the modifications proposed of using a single test ring. I cannot conceive of anything more simple than the little round card. You can test with perfect accuracy a person in any position, lying in bed or otherwise, where you can get a good light on the card.

The Liver and Pancreas in Twelve Cases of Diabetes.—E. Parmentier compares the clinical manifestations of the diabetes and the conditions in regard to the liver and pancreas functioning and findings with the autopsy report. His work is published in the *Bull. de la Soc. Méd. des Hôp. de Paris*, 1910, xxvii, 532. The details of the cases are tabulated for comparison; they show the remarkable frequency of changes in the pancreas in all the clinical forms of diabetes. The hyperplasia in the connective tissue, sclerous lesions in the excreting passages and the angiomatous aspect were most striking in both liver and pancreas, paralleling each other in these two organs. The findings show further that the lesions in diabetes are by no means confined to the islands of Langerhans. The article is illustrated.

THE USELESSNESS OF LOCAL TREATMENT IN PUERPERAL SEPSIS *

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DETROIT

When I was in active obstetric practice, twenty-five or thirty years ago, I saw many cases of puerperal sepsis, especially in consultation and coming from the hands of midwives. We were then just beginning to practice antiseptic midwifery and our great object was to kill the germs. Hence, we began to use various remedies that we supposed would destroy micro-organisms, such as phenol and mercuric chlorid, and I used these faithfully as vaginal douches and by intra-uterine irrigation. Then the fad of iodoform started, and I plead guilty of even introducing the stinking suppositories into the uterine cavity and letting them melt there.

But it soon was clear to me that there was not much difference in the ultimate result, no matter what kind of local treatment we made use of—that the real aim was asepsis, the prevention of puerperal fever.

I then found the best result by cleaning out the uterus gently with a little absorbent cotton or gauze on a swab, carefully wiping it dry, and then swabbing it out with pure phenol. My idea was that by curetting the lymph-channels were opened and raw surfaces were made, and thus better chance was given for absorption, while by simply mopping the uterus out any little detritus and secretion which might contain bacteria were rubbed away, and if any small raw surfaces existed, by cauterization with pure phenol they were closed and covered, thus preventing absorption and at the same time perhaps destroying all the micro-organisms that existed there. But even this mode of treatment I doubted, and finally stopped that also, depending altogether on constitutional treatment.

I have always had unbounded faith in the use of quinin, holding that it inhibits or checks the ravages of micro-organisms and toxins in the blood, but in our present light it seems to me that it probably supplies some opsonin. Then I believed in elimination, and kept the bowels free, and gave the patients large quantities of water to flush the kidneys constantly. This mode of treatment seemed to give as good results as the heroic local treatment which was all the rage, if not better.

In connection with puerperal sepsis there is another thing to be considered, and that is the kind of micro-organism which causes the trouble. In most cases it is the streptococcus, pneumonia, diphtheria, grip or colon bacillus—sometimes a mixture of two or more. These all seem to cause more or less local disturbance, with a good deal of pain, but I saw a number of cases of puerperal sepsis in the course of my practice which absolutely produced no symptoms. The patient, when asked how she felt, replied, "Very well." Asked if she had any pain, she would say "No." The abdomen would be perfectly flat; no localized tenderness or pain anywhere; patient was feeling all right, taking nourishment, bowels moving perfectly; in fact, all the bodily functions apparently in good condition. The only thing she might complain of was a nervousness, lack of sleep. On looking at a patient like that and talking with her one would say that there was nothing the matter with her, but on putting a thermometer in her mouth one would find the temperature 105, 106 or 107, and over, with a pulse of 120 to 140, and it would be clear that she was seriously sick.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

Now this peculiar type of puerperal sepsis, I hold, is due to a special micro-organism that has not yet been isolated or discovered. One may find the streptococcus in the secretion, but one finds the same in other cases, with no such symptoms. In this peculiar type of puerperal sepsis the patients will drag along for four, six or eight weeks, and finally recover, although some will die—I should say 25 to 30 per cent.

As far as the local symptoms and manifestations are concerned, in the general run of cases, I find them of two varieties: one in which the infection travels up the uterus into the tubes, causing septic peritonitis, generally of a severe grade; and another variety in which the infection travels along the lymphatics as the result of an abrasion, especially a tear in the cervix, and the whole symptoms of the disease seem to develop in the broad ligament and in the cellular tissues of the pelvis, from there spreading in the direction of least resistance, sometimes behind into the cul-de-sac of Douglas, and breaking into the rectum spontaneously in fortunate cases, or working up toward Poupart's ligament, where it can be readily opened. Cases of the latter kind last for weeks and sometimes months, and the patient generally recovers.

The point I want to make is simply this, that by local treatment more harm is often done than good. Douches given by ignorant persons often implant new and virulent micro-organisms within the genital tract, while scraping and curetting and injuring the delicate mucous membrane opens new channels for absorption.

When a localized abscess is formed which can be opened into the cul-de-sac of Douglas or somewhere else, I certainly believe it should be promptly opened, but as we see the disease generally several days after its onset, I think no local treatment will be of any avail. Experiments made on mice with anthrax bacillus have shown that if the bacilli are appplied to a raw surface and removed ten minutes later and the parts cauterized the treatment will have no effect, but the animal dies of anthrax. The human system may have a greater resisting power; still, after twenty-four hours or more such an amount of absorption has taken place that the removal of the discharge can do little if any good. Continued irrigation, it has been shown, cannot keep the parts clean, nor can douches or irrigation twice a day have any effect.

I have been all the more desirous of bringing this view before our section since reading the proceedings of the last German Association of Obstetricians, where Winter, in an exhaustive article, shows this most clearly, coming to the conclusion that simple absorption ceases as soon as the necrotic tissue is cast off; that simple local infection and endometritis stops soon without any treatment; that no local treatment will prevent deep or general infection, and that when absorption takes place and there are remnants of tisue still in the uterus, one should be tardy about removing them, as these are generally quickly cast off and the patient gets along just as well as with the most vigorous treatment.

In the present state of our knowledge it seems to me that we should discourage as much as possible the indiscriminate local treatment made use of during the last decade or two; that any remnants of tissue should be most gently removed; that local abscesses should be opened at the right time, that is, in a week or two, and that intra-uterine and vaginal douches should not be made use of. With a clearer knowledge of bacteria, and especially the development of antibodies in the system, we should encourage as much as possible the development of antibodies and the elimination of toxins, by flushing the kidneys, keeping the bowels open and favoring diaphoresis. At the same time we should try to get a culture of the infecting micro-organism so as to know what we have to deal with, and by the use of antitoxins increase the opsonic index sufficiently to carry our patient to a successful issue.

SUMMARY

1. In puerperal sepsis, local treatment is of no benefit.
2. Douches and intra-uterine irrigation often do harm.
3. Local abscesses should be opened and allowed to drain without irrigation.
4. Constitutional treatment, on general principles, should be instituted, quinin and opium being the sheet anchor.
5. Elimination in every direction should be assisted.
6. The infecting organism should be identified and the opsonic index increased by antitoxins.
7. And, after all, prevention should be our constant endeavor, a clean patient and clean doctors, and midwives; this is most often secured by wearing rubber gloves.

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ABSTRACT OF DISCUSSION

Dr. E. Gustave Zinke, Cincinnati: The local treatment of puerperal sepsis is never to be discarded; it is of great importance, and should be better understood. Before we proceed with the treatment of puerperal sepsis, however, we must first *determine with what form of sepsis we are dealing.* There are two distinct varieties of puerperal infection and a sharp line must be drawn between the two. In one instance, the most frequent, we deal with the saprophytes; in the other, with the streptocccoci. In the former, if the infection is recognized early and the uterine cavity promptly cleaned, the temperature at once subsides and the trouble is at an end, as a rule. The cases of so-called sapremic infection, or wound-intoxication as the Germans call it, begin in a very mild manner. The pulse remains normal for sometime and the temperature rises very slowly. If the case is not recognized promptly and the necrosis, produced by the saprophytes, becomes extensive, there results, in time, a so-called putrescent endometritis and then the symptoms gradually become more severe and the evidence of systemic infection is much more profound. In these cases local *treatment is of prime importance.* The gentle cleaning out of the uterine cavity, followed by a copious antiseptic uterine irrigation (ten or twenty quarts) is often sufficient to cause a prompt recovery. Should the temperature rise again, the irrigation may be repeated within twenty-four or forty-eight hours, but this will rarely be necessary.

It is different when the streptococcus has invaded the parturient tract, which is the so-called wound-infection of the Germans—the true septic infection. When the streptococcus gets into the birth canal, especially within the cervical lacerations or, which is worse, within the placental site, a profound systemic disturbance manifests itself at once and the temperature runs up quickly to 106 F. and more after a chill of some duration. The pulse, too, goes up promptly to 120 and over. In these cases the germs immediately pass through the wounds into the blood or lymph-vessels, or both, beyond reach. But even here the entire parturient canal must be kept clean in connection with the constitutional treatment. The serum-treatment, if resorted to early, will give the best results.

Dr. Horace G. Wetherill, Denver: As usual Dr. Carstens has stated his opinions forcefully and, as usual, he is, in the main, correct. I think we shall all agree that, on the whole, intrauterine treatment following septic infections, particularly the use of the curette, has been injurious. Dr. Carstens' treatment seems to me to be much too broad, however, and it ignores one of the most important of the accepted surgical principles;—the drainage of an infected cavity. Many times each of us has found a large amount of septic putrid material bottled up within the uterine cavity. The principle of drainage which we apply to infected cavities everywhere should be applied to the uterine cavity under these conditions. If we use drainage, and if it can be used without the risk of a retrograde infection, why not use irrigation as well? A drainage device which I have used for this purpose for several years is a double tube so constructed that it is possible to irrigate through one leg of the tube and get the drainage from the other. With a tube of this kind connected with a fountain syringe continuous irrigation may be employed, if it is desired. If this is done with a permanganate of potassium solution, or better still, with alcohol (30 to 50 per cent.) there is absolutely no danger of poisoning.

DR. H. J. BOLDT, New York City: The whole matter resolves itself into a question of diagnosis, and I believe that is what Dr. Carstens really meant. We realize that when we have to treat bacteriemia, local treatment as such, if the system is overburdened with streptococci, becomes absolutely useless. He has also told us, and it is absolutely correct, that purulent material, such as decidua, or perhaps a piece of retained placenta, left in the uterus, is, as a rule, spontaneously cast off in a short time without in all probability causing a very serious disturbance, except temporarily. Dr. Carstens has particularly advised against the use of a curette; that is the chief point which he brought out. To abstain from local treatment, when a septic infection is local, it is not our purpose to confirm such an idea, but whenever we have a severe local septic infection, as for instance from the external genitalia, it is our duty to look after that. If we have reason to believe that there is foreign material in the uterus which is not soon cast off from the uterus spontaneously, and if the cervical canal is patulous, which is usually the case, then we should enter the uterine cavity and remove the pathologic material as far as possible with care; but the point is, not to cause traumatism, because traumatism on the puerperal tract will open the avenues for septic infection.

DR. HENRY SCHWARZ, St. Louis: I agree with Dr. Carstens in the conviction that prophylaxis is the main thing. I want to emphasize what he said about the use of rubber gloves, clean hands and clean instruments as the greatest factors in preventing loss of life by septicemia. I agree with Dr. Boldt, that diagnosis of the nature of the infection is of the utmost importance, and I insist on a bacteriologic diagnosis in all cases which are used for statistical purposes. The only variety of septicemia which I wish to discuss here, are the cases of general bacteriemia in which the streptococci are found in the blood. When you can get a culture of streptococci from the blood, it is my experience that, as a rule, nothing in the world can save that woman; these fatal cases of streptococcus infection are all cases in which the germs are brought to the patient by the doctor or by the nurse, or by the instruments; these cases can be prevented ano they must be prevented.

I want to warn against the use of bacterial vaccines in these cases of puerperal septicemia; I mean against the injection of killed cultures of streptococci into the system of a woman, whose blood contains already billions of living streptococci. You can not hope to increase the formation of antibodies by so doing, for the living streptococci have already caused the formation of all the specific antibodies which the blood of this respective patient can form; the use of anti-streptococcic serum in these cases is logical; it should be given in large doses frequently repeated; it can do no harm.

The brilliant results obtained with bacterial vaccines in furunculosis and other chronic conditions make it likely that in the localized form of septic infection good results may likewise be obtained from the careful use of streptococcic vaccine, but, I protest against the indiscriminate administration of this vaccine by the general practitioner, because by temporarily lowering the resisting power of the body, that may enable streptococci causing a local infection, such as a pelvic cellulitis, to overthrow the natural defenseworks of the body, and thereby change a local infection, which is curable, into a general one, which may prove fatal.

DR. J. H. CARSTENS, Detroit: If the uterus is flexed and retains septic material I would expect any one to straighten it out and establish drainage. What do we do in appendicitis? We open the abscess, put in a little drainage tube, and that is all. We do not irrigate. The abscess is filled with micro-organisms of all kinds. Why should we dissect and wash and douche, and so on? I have taken intestines and put them under a faucet and let the water run on them for twenty-four hours, and still the micro-organisms were there. The nurse may clean the uterus out two or three times a day, but I do not believe that it does any good. Many patients have died who would have lived if they had been let alone. I plead for the constitutional treatment by the elimination of the micro-organisms. If they are eliminated from the system then the patient will have a chance to get well.

CHRONIC INFLUENZAL BRONCHITIS[*]

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The following cases were selected as illustrating different phases of chronic influenzal bronchitis, so far as possible, and are presented with the hope that they will prove interesting and instructive to others. To me the recognition of these cases and the variety of clinical forms they may assume has been very helpful.

REPORTS OF CASES

CASE 1.—*Summary.*—Cough of four years' duration and for several years previous frequent attacks of influenza when patient would cough and expectorate for a time; chills and fever for several days at one period; diagnosis of tuberculosis; mild asthmatic attacks; diffuse bronchitis. There were no tubercle bacilli in sputum; in smears and cultures the influenza bacillus found to be the predominant organism.

History.—The patient, M. K., servant girl, single, aged 28, was first seen Sept. 14, 1906. Two cousins on father's side had died of consumption. One brother died with symptoms of miliary tuberculosis of the lungs during the summer of 1908. The patient had measles and diptheria as a child and pneumonia at the age of 13.

Present Illness.—For several years patient has had frequent attacks of influenza, during which she would be feverish, and would cough and expectorate for a time. During the early fall of 1905 she began to cough, with an attack much like those in the past. Since then her cough and expectoration have been continuous. During the spring of 1906 the condition became decidedly worse. She developed a fever, and during May had several chills and sharp pleuritic pains on both sides. There were no night sweats. About this time a diagnosis of pulmonary tuberculosis was made. The fever disappeared, but the cough and expectoration have continued. At times she has experienced a tight sensation in the chest and on several occasions she has had mild attacks of shortness of breath, somewhat resembling asthmatic attacks.

Physical Examination.—Patient was well nourished. The chest was fairly well formed, expansion fair and about equal on the two sides. The percussion note was perhaps slightly hyperresonant. At the right apex the breath sounds were relatively suppressed and expiration was a little prolonged. Coarse sonorous and some fine crepitant râles were heard at this apex. A few coarse râles were also heard throughout the chest. There was no friction rub. Heart seemed about normal; pulse 80; temperature 99.2. The sputum was tenacious and mucopurulent in character. A great many examinations revealed no tubercle bacilli. About 0.3 c.c. of sputum was injected into a guinea-pig subcutaneously and at the end of sputum of 186 patients. Of these, 120, or 64 per cent., were classified as mixed infections; that is, two or more organisms were noted in each specimen. Among the more important organisms identified were the influenza bacillus, *Micrococcus catarrhalis,* the pyogenic cocci, pneumococci and the *Bacillus mucosus capsulatus.* In 110 cases, or 59 per cent., influenza bacilli were present in varying numbers. In 66 cases one organism so far predominated that it could fairly be classed as a pure infection. Of these 66 cases of comparatively pure infection, the influenza bacillus was the infecting organism in 47 instances, the pneumococcus in 8, the *Micrococcus catarrhalis* in 5, and the *Bacillus mucosus capsulatus* and the pseudopneumococcus were each represented as a pure infection in 3 cases. It is well to remember that actinomyces and other members of the streptothrix group may in rare instances cause a chronic bronchitis.

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[*] Read before the Milwaukee Medical Society, Jan. 25, 1910, and by invitation before the Racine County (Wis.) Medical Society, March 31, 1910.

These cases of chronic respiratory infection are undoubtedly important as sources of infection not only to themselves, as manifested by acute exacerbations, but also to those about them, as is well illustrated in Case 6, in which instance so many members of the family seem to have suffered from a like infection. The influenza bacillus is very easily killed outside of the body, and it must be in just such cases as these that the stock of these organisms is preserved, especially during inter-epidemic periods.

It is perhaps disappointing to know that the symptomatology of influenzal bronchitis, so far as present studies indicate, does not differ materially from that of chronic bronchitis, produced by other organisms. In Cases 1, 2, 3 and 5 the onset was with an acute attack of influenza. In the others the onset was, so far as we know, more insidious. This is the usual history in these cases. Doubtless in many of them a bronchopneumonia, more or less evident, is present at onset, and in this fact one may find an explanation for the persistence of the cough with localized or diffused bronchitis. In not a few of these cases, as is made evident at autopsy, the bronchopneumonia does not fully resolve. There has been perhaps a small abscess with destruction of tissue, and thus a pocket is left communicating with the bronchus, offering a favorable place for bacteria to persist and develop. These small cavities might or might not give physical signs. But a persistence of localized signs would suggest such a condition. There is frequently damage to the wall of the bronchus, and this may result in a condition of diffuse or localized bronchiectasis, which, as we know from autopsy-findings, is so often present in these cases, even though there have been no physical signs of such a condition. One may quite safely infer that all or nearly all of the six patients whose cases are reported would show at autopsy this condition, either diffuse or localized. Bronchiectasis may be very acute in its onset, and Lichtenstern believed that even after lasting weeks and months it may end in recovery.

Attacks resembling asthma were present in three cases. In Case 2 the asthmatic attacks were marked and the sputum resembled quite closely that of true asthma. It it quite certain that influenza may simulate closely or actually co-exist with true asthma.

The not infrequent occurrence of hemoptysis with these cases of bronchitis is worthy of note. The bleeding may be slight or profuse, and profuse recurrent hemorrhages may be present for over twenty years as in Case 6. The hemorrhage usually comes from a rupture of vessels in the hyperemic bronchial mucous membrane; doubtless, as in tuberculous cavities, fairly large exposed vessels may rupture spontaneously or on exertion or coughing.

Acute exacerbations, which often represent a bronchopneumonia or larger areas of consolidation, are not uncommon in these cases and are undoubtedly a constant source of danger. It may be difficult or impossible to determine accurately what organism has been the cause of the consolidation, but it is quite certain that th influenza bacillus is not infrequently responsible.

DIAGNOSIS

The question of diagnosis is perhaps the most interest ing one that arises in connection with these cases, and it is their frequent resemblance to tuberculosis tha makes it so important. It is not so much the case which has lasted for many years but rather the case that has persisted for from six months to two years, such as the first case reported; that suggests most this disease. The cough, the persistence of fever, night sweats, loss of weight, hemoptysis, elastic tissue in the sputum, local or diffuse signs of bronchitis or of consolidation or cavity formation, all, or any of which may occur, often strongly suggest the presence of tuberculosis. Yet such cases may be absolutely non-tuberculous, and we know that they are not so very infrequent. It cannot be doubted that many such cases have found their way to tuberculous institutions and have considerably swelled the percentage of recoveries. Several such cases have been observed and followed by Lord.

This should not happen so frequently in the future, as the majority of them can be differentiated, I believe, when it is possible to make careful and complete studies.

Knowing as we do that the above signs so often mean tuberculosis, however, it is frequently safer to give the patient the benefit of the doubt and treat them for that condition. But in view of the impossibility of making a positive diagnosis without finding tubercle bacilli, their presence should be considered the only infallible indication of tuberculosis. On the other hand, it is well not to be too eager to exclude it on the finding of influenza bacilli and no tubercle bacilli at first, as I have in several cases later found them. We know how very common it is for tuberculous patients to have attacks of influenza. Tuberculin may be used as a method of diagnosis and is particularly valuable when negative. A positive reaction might be due to a very slight tuberculous lesion, while the essential process was non-tuberculous.

PROGNOSIS

The prognosis in cases of bronchitis of years' standing, usually with bronchiectasis, is, as a rule, bad. Some of the patients, however, do recover, even after the condition has persisted for many years; but such cases are rare. Many patients, however, enjoy very good health and are apparently quite well with the exception of the bronchitis. It is not uncommon for them to show improvement for a time; usually they are better during the summer, and worse during the winter and spring months. With the cases of only a few weeks' or months' duration the matter is different, as the majority of the patients recover with proper management.

TREATMENT

The results of treatment in these cases vary much. In those of but a few weeks' or months' duration the patients usually recover more or less promptly if placed in a suitable environment. A change of occupation, if dusty or causing continued exposure, may be necessary. Usually a few weeks of out-of-door life in a warm, genial climate, if possible, is sufficient to remove the condition.

As a rule it is not necessary, and certainly one would not from choice, place these patients, when recognized, among the tuberculous. They could easily contract the disease and to associate or be classed with these patients would be in itself depressing and deleterious.

With the cases of many years' standing the treatment is often unsatisfactory and of little avail. An out-of-door life and other methods calculated to improve the general health are undoubtedly of more value than anything else. Inhalations and intratracheal injections have been used by some with distinct benefit. Boggs[2] refers to a case in which the patient was very much benefited by tracheal injections of 10 per cent. iodoform suspension in olive oil. Still the majority of these chronic cases continue their course, the patients being better in summer and worse in the winter and spring, regardless of what one is able to do in the way of medication.

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CONCOMITANT SQUINT WITH SOME REMARKS ON ITS ETIOLOGY AND TREATMENT [*]

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The etiology of concomitant squint was but ill understood until Donders' masterly work on accommodation and refraction of the eye was published in 1864. Many fanciful theories and guesses were advanced to account for the "evil eye," as the Italians called it, some even attributing the affection to the agency of the evil one, as the name "evil eye" implies; while others gave such causes as sucking of fingers, looking at the tip of the nose, or at a curl at the side of the head, imitating the cross-eye of a companion, etc. Such etiologic factors as the above were advanced by the laity, who then, as now, were only too ready to give explanations of things not understood. It must be admitted, however, that the members of the "learned profession" were able to give but little better explanation as to the cause of squint; hence the professional advice as to treatment so often given; for example, to let the child alone to grow out of the squint.

In a survey of the literature of strabismus up to Donders' time one is struck perhaps more by the depth of ignorance than by the extent of knowledge shown in matters pertaining to the pathology of squint. Indeed, until Donders' day but one plausible theory resulting in a rational method of treatment of the deformity had been advanced—the muscle theory.

I. THE MUSCLE THEORY

This theory considered the cause of squint as a strictly local one and as a defect in the muscle itself. The squint was considered as affecting but one eye. In convergent squint there was shortening of the internal rectus muscle; in divergent squint shortening of the external rectus muscle. The logical treatment, of course, was *to cut* the shortened muscle. Unfortunately the muscle was cut through the fleshy part and the good results expected did not follow the operation, the eye often squinting after the operation in the opposite direction to the previous one, and frequently to a greater extent. The muscle theory was faulty in two respects: first, in considering strabismus a local affection; second, in treating it as affecting but one eye; furthermore the refraction of the eye and the fusion sense were practically disregarded.

II. ACCOMMODATION THEORY

In 1864 Donders advanced his well-known theory of hypermetropia as a cause of convergent squint, and myopia as a cause of insufficiency of the internal recti muscles and divergent squint, owing to a disturbance in the relation between accommodation and convergence. This theory may be stated briefly as follows: accommodation and convergence are intimately associated in the act of binocular single vision. For example, the emmetrope, in order to see well in the distance, exercises neither accommodation nor convergence, the eyes being in a state of rest, the rays of light properly focused on the retina and the visual lines parallel. Such eyes, to see an object plainly at nearer distances, however, must exercise both accommodation and convergence. For instance, to see an object plainly at 1 meter, 1 D of accommodation must be used and at the same time 1 meter angle of convergence in each eye; to see an object at 0.5 meter, 2 D of accommodation and 2 meter angles of convergence must be used, the two functions increasing and decreasing in an equal ratio. In this way objects are seen distinctly and singly, the object being properly focused, the visual lines being directed to the object looked at, whether it be in the distance or near; that is, up to the normal punctum proximum or the near point of binocular single vision.

In hypermetropia, on the other hand, the accommodation must act in excess of the convergence in order that the subject may see objects distinctly and singly, even in the distance; for example, with hypermetropia of 2 D the patient must exercise 2 D of accommodation to correct the static refraction of the eye to see well in the distance, while the convergence remains in a state of rest, that is, with the visual lines parallel. For such eyes to see an object distinctly and singly at 1 meter the patient exercises 3 D of accommodation (2 D to correct the static refraction and 1 D for the dynamic) while only 1 meter angle of convergence is used; for such eyes to see distinctly at 0.5 meter 4 D of accommodation must be used while only 2 meter angles of convergence are required.

Owing to the intimate association between accomodation and convergence this excess of accommodation over convergence has a tendency to increase the convergence of the eye more than is necessary—in other words, to cause a convergent squint. As a strong contributing cause to convergent squint in these cases, Donders, following Buffon, mentions an inequality in the refraction of the two eyes. Especially if there is astigmatism in one eye, or opacities in the cornea, in the lens or in the vitreous, or lesions of the fundus of the eye, in fact, anything tending to reduce the vision of the eye more than its fellow, convergent strabismus is liable to result. As other contributing causes Donders gave the widening of the angle alpha in cases of hypermetropia, paresis of accommodation, etc. As regards the angle alpha and its influence in the production of squint, in the last two years I have given the subject special *attention*. In hypermetropia of like amounts, I have found the angle alpha as great in the non-squinting patient as in the subjects who squinted; or the difference was so little in favor of the non-squinters as not to be considered. In myopia, however, the angle alpha was relatively considerably less in the eyes of the patients who squinted than in those who did not squint, and may have borne some relation to the squint.

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[2] Boggs, T. R.: The Influenza Bacillus in Bronchiectasis, Am. Jour. Med. Sc., cxxx, 902.

[*] Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[*] For considerations of space, a portion of this article is omitted from The Journal. The complete article appears in the Transactions of the Section and in the author's reprints.

Why it is that not all hypermetropes have convergent strabismus I shall discuss later and compare and contrast Donders' accommodation theory with the fusion theory of Worth.

III. FUSION THEORY

In 1893, Worth, in his book on squint, advanced the theory of a defect in the fusion faculty as the essential cause of squint (convergent). Worth states that the eyes are controlled at birth and a few months thereafter by the motor coordination alone, which serves to keep the eyes approximately straight in the absence of any disturbing influence. By the sixth month the fusion center begins to develop and by the end of the sixth year is fully developed. Worth says further that "when the fusion faculty is fairly well developed neither hypermetropia or anisometropia or heterophoria can cause squint. In fact, then nothing but an actual muscular paralysis can cause an eye to deviate."

In support of his theory Worth cites many cases of squint in which he was able to get the patient early enough, in both years and time of onset; by training the fusion faculty he prevented amblyopia and brought about a cure of squint. In contrast to this class of cases he cites the cases coming under observation late in years as to the onset of the squint, in which the vision in the squinting eye was practically lost and the fusion faculty but very poorly developed, or quite lost, and in which no amount of exclusion of the fixing eye and training of the fusion faculty could prevent or cure the squint. As still further evidence and support of his theory he reports the cases, in the family of a squinter, of younger brothers and sisters whom he had the opportunity to examine as to their fusion faculty. In all cases in which the fusion faculty was well developed (106 cases) not a single case of squint occurred, but in those cases with "doubtful" fusion sense (thirty-seven) six squinted later, while in fourteen cases with fusion faculty very deficient eight afterward squinted constantly, and one other occasionally.

As contributing causes of squint Worth gives first rank to hypermetropia, and fully recognizes the influence it exerts in causing squint, but mostly as a contributing cause.

Other factors as contributing causes are mentioned, as anisometropia, congenital amblyopia, esophoria, specific fevers, violent mental disturbances, hereditary influences and, in divergent squint, exophoria.

COMPARISON OF DONDERS' ACCOMMODATION THEORY WITH WORTH'S FUSION THEORY

It may be stated at the outset that neither theory accounts satisfactorily for all cases of concomitant squint (manifest and latent); in fact, both theories combined fail to solve the question in some cases, when some of the contributing factors as above enumerated may be called into play to account for it.

In passing it may be said that the muscle theory has been almost universally abandoned; hence I shall not refer to it further.

DONDERS' THEORY

That excessive action of the ciliary muscle can produce dynamic convergence even in the emmetropic eye was long since demonstrated by Donders. By placing a negative lens in front of one eye and screening the other, and having the patient look at a distant object, the hidden eye was shown to converge when the open eye looked through the negative glass, the tension of accommodation in the uncovered eye looking through the negative glass being manifest through an excessive action of convergence in the eye that was screened. Also in hypermetropia, which requires an excess of accommodation relative to the convergence, there is produced a tendency to convergence in such eyes. Especially is this tendency to converge liable to be manifested if one eye is more hypermetropic than the other and for any reason the visual acuity is reduced more than in the fellow eye, because in such instances the secondary image can be very easily suppressed and the eye converged without causing annoying diplopia. Not only may it be demonstrated that tension of the accommodation, even by a negative glass, in cases of emmetropia, may cause convergence, but we have it proved in clinical experience now and then. For instance in cases of anisometropia in which there is a high degree of myopia in one eye and hypermetropia in the other, the myopic eye converges at times, and this convergence may be entirely relieved by placing the proper correction on the hypermetropic eye. I have had this occur in two instances. Krusius[1] in a recent paper on divergent strabismus in hypermetropia and the effect of mydriasis on it strikingly showed the effect of changes in the accommodation in producing or relieving squint. In one case he found, on instilling atropin into the left eye, that the squint in the right eye was relieved, but again became manifest when correction of the hypermetropia in the left eye was made. He attributed the effect of the correction of the squint in the right eye by atropin in the left to a strong impulse in the left eye to overcome the hypermetropia, which was transferred to the right eye as an associated motor movement, thus correcting the squint. This seemed to be borne out by the fact that when the use of atropin was discontinued in the left eye and the ciliary muscle could act, the right eye again diverged. Another case along the same line is that reported by W. Wessenberg.[2]

> A man of 25 showed voluntary inward rotation of the left eye while the other remained in the primary position; the right eye + 1 D., vision = 5/5. Left eye + 1.25 D., vision = 5/12. The voluntary squint was associated with accommodation of 4 to 5 D. and a — 4 D. was required for clear distinct vision of the right eye at such times, while squint did not take place in the right eye when it was used for reading, with + 4 D. glass.

It is often asked (and Worth dwells on this point) if hypermetropia causes squint why it is that not all hypermetropes squint? The reason is, as Donders pointed out, that, while the association between the accommodation and convergence is a close one, it is not a cast-iron fixed one. There is a certain latitude or amplitude, a dissociation, if you please, between the two; for example, a hypermetrope of 2 D can exercise 2 D of accommodation to correct static refraction when looking at a distant object and yet see it singly, though exercising no convergence whatsoever, or again when looking at an object 0.25 meter (10 inches) away can exercise 6 D of accommodation and only 4 meter angles of convergence, and yet see the object distinctly and singly. If this were not so, everyone, except emmetropes, would be doomed either to squint or to see indistinctly. The extent to which accommodation and convergence can dissociate themselves in cases of ametropia has its limits, however, and, sooner or later, the subject must choose either indistinct but single vision in both eyes or distinct vision in one eye and convergence or divergence of the other.

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[1] Krusius: Arch. f. Augenkr., lx, 272.

[2] Wessenberg, W.: Abstr. in Arch. f. Augenh. (Knapp's), 1908, p. 106.

The fact that the average degree of hyermetropia furnishes the highest number of cases of squint is not surprising either, for, as explained by many observers, the striving for both distinct and single vision is greater in such cases than in the cases of very high degrees of hypermetropia in which no amount of striving serves to secure enough accommodation to maintain distinct vision, so that the effort is abandoned and hence follows no excess of convergence or squint. Worth and others deny this and Worth gives statistics and tables to prove that the degree of refractive error has very little to do with the question of whether the patient shall or shall not squint in the first instance. He admits, however, that when the squint is once established the refractive error becomes a very important factor. Worth further states that moderate degrees of hypermetropia are more common than high, which of course is well known, but the same thing obtains in both squinters and non-squinters, and in fact is about the same; but he admits that most of the non-squinters who sought advice did so on account of headaches or visual defects. Why not admit, then, that those with moderate degrees of hypermetropia who did squint did so in order to escape headaches and indistinct vision by the act of squinting; that is, they sacrificed indistinct single binocular vision to comfortable clear vision with one eye? In fact, that is what really happens, as Donders asserts. We in America long ago realized the fact that patients with moderate degrees of error of refraction, especially when astigmatism is complicating, show more asthenopic symptoms than patients with very high degrees of error. The vast majority of hypermetropes who neither squint nor seek aid on account of asthenopic symptoms or faulty vision, have learned to associate their eyes in single binocular vision with comfort, though there is a disproportion in the accommodation and convergence. Another point often overlooked or forgotten is that, as Donders pointed out long ago, the amplitude of accommodation is greater for the same degree of convergence in hypermetropia than it is in emmetropia, and that this amplitude of accommodation is less in myopia than in emmetropia; and this again may account for some of these hypermetropes not squinting so readily, as the amplitude of accommodation comes in to save them from it. As Landolt[3] remarks:

> It would be putting a slight on Nature to assume that, incapable of creating only emmetropics, she had coupled accommodation and convergence in such a way that, instead of rendering the vision more perfect they would act only to disturb it. It may therefore be taken for granted, that in considering their intimate association the two functions must be independent of one another to a certain degree.

In turn, relative to the fusion theory of squint, it might be asked why every human being does not squint, soon after birth, if the straightness of the eyes depends on the fusion sense, since no fusion center then exists? Worth answers this question by stating that motor coordination powers of the ocular muscles serve to keep the eyes approximately straight until the fusion center begins to develop, and when this is fairly well-developed, he asserts, that nothing short of a paralysis can cause an eye to squint. Why may we not invoke the same agency, the motor coordination power, to account for the vast majority of hypermetropic eyes remaining straight?

In my opinion, for lack of a better explanation, we must give the inherent desire for single binocular vision in the human being as the stimulating force over the muscular coordinating powers, as a strong contributing factor in keeping the eyes parallel, certainly until the child is six months to one year of age, when there is no marked association between accommodation and convergence or any fusion center developed.

DIVERGENT SQUINT

As to the cause of divergent squint, invoking the accommodation and fusion theories to account for it, I shall give first Donders' own words on this subject:

> It is commonly the custom to apply the term squint exclusively to the absolute form. In this sense it is less frequent than strabismus convergens. And if, nevertheless, a certain number of cases, about equal to that in strabismus convergens, is to be explained by primary disturbance of the muscles (paralysis, inflammation, spasm, complicating congenital anomalies, etc., a blind eye also often deviates outward), myopia cannot occupy the same prominent position as an etiological element, that hypermetropia does in reference to strabismus convergens; nevertheless, in about two-thirds of the cases of absolute diverging strabismus, myopia was met with. But, if, on the other hand, we take relative diverging strabismus also into account, the diverging form is as frequent, if not more frequent than the converging; and now, moreover, the extraordinary causes, originally proceeding from the muscles or from blindness in one eye, fall into the background; therefore in at least 90 per cent. of the cases of relative diverging strabismus we find myopia.[4]

We see here that Donders takes into account not only the absolute (static) divergent cases which form a minority of the cases in myopia, but the relative (dynamic) cases of divergent squint, in which myopia is found in at least 90 per cent. of the cases. Furthermore, including the relative (dynamic) form of divergence with the absolute (static) form, they are more frequent than convergent squint. In myopia the accommodation is relaxed and indirectly the convergence is relaxed, and a tendency to divergence is established, dynamic or relative at first, but in the cases of progressive myopia this divergence often becomes absolute or static.

As is well recognized, other factors than that of accommodation enter into the eitology of divergent squint and Donders called attention to these; first, an original preponderance of the external recti muscles; second, smallness of the angle alpha; third the favorable form of the eye for outward movement.

Worth's fusion theory fails utterly to explain divergent strabismus, because divergent squint in myopia, as a rule, does not develop until between the seventh and twelfth years, when the fusion sense has been developed fully. Hence the divergent squint develops in spite of and in the presence of a fully developed fusion center. Worth gives such cases as apparent exceptions to his rule. If we take into account, however, the relative cases of divergent squint, they are very numerous, as Donders long since pointed out. In fact, this is the weak point in Worth's theory of a defect of the fusion sense as the fundamental cause of squint.

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[3] Landolt: Refraction and Accommodation of the Eye, p. 199.

[4] Donders: Accommodation and Refraction of the Eye, p. 409.

ALTERNATING SQUINT

Although Donders did not attempt to account for alternating squint by the accommodation theory, this theory, in my opinion, may have some bearing on the squint, as will be shown later. Worth asserts that the fusion theory is the only one to explain these cases, and that in these cases there is a congenital absence of the fusion center. He states that the muscle theory can not explain it at all as there is no motor defect; and that hypermetropia can not cause it, as there is usually little refractive error.

I am aware of the fact that many of these cases have but little refractive error, the eyes being almost emmetropic or even, in some cases, myopic. The question, however, of what we call a little refractive error is a relative one. Worth[5] considers a hypermetropia of 1.75 D as insignificant, and a case in which glasses could be dispensed with. He also considers 0.5 D of astigmatism as normal. We, in America, correct much smaller errors of refraction than 1.75 D hypermetropia; also less than 0.50 D of astigmatism. It is significant, too, the number of cases of alternating squint that have hypermetropia in smaller or greater amount. In 229 cases reported by Worth himself, 196 had more than 1 D in the lowest meridian of one eye; and 176 of these 196 cases had 2 to 6 D, and the remaining 20 even higher degrees of hypermetropia up to 10 D. In looking over my casebooks I find the vast majority of these alternating squinters had hypermetropia and that the squint was almost without exception convergent. May it not be that, in a certain number of these cases at least, the convergence and accommodation stood in a causal relation? If not, why should the eyes so often converge rather than diverge in alternating squint.

INSUFFICIENCIES, HETEROPHORIA AND LATENT SQUINT

Donders' accommodation theory accounts in a logical way for these. Worth's theory of fusion accounts for them not at all; in fact he asserts that latent squint and manifest deviations have an entirely different pathology, and that, while manifest deviations are due to a faulty fusion center, latent deviation, heterophoria, is essentially a motor anomaly. I do not subscribe to this doctrine at all. In my opinion latent muscular insufficiencies, in the main, have the same underlying cause as the manifest and in fact often become manifest. It is begging the question to say that where the latent divergence becomes manifest it is due to a defect in the fusion faculty, but not otherwise.

In order to reconcile and harmonize the two theories of squint, "accommodation" and "fusion," and to show that they are necessary one to the other in accounting for the complex of symptoms—loss of binocular vision, more or less complete; amblyopia, greater or lesser in the deviating eye; deviation of the visual axes; and suppression of the image in one eye—it is well to look at squint from a double viewpoint—the psychical and the physical.

The accommodation theory, while it gives to the fusion sense a secondary position, emphasizes the physical side of the squint; for example, (1) errors of refraction, especially in cases in which that error is greater in one eye than in the other; (2) opacities in the refractive media or lesions of the fundus enfeebling the sight in one eye; (3) the variation in the angle of the visual lines to the corneal optic axis of the eye—the angle alpha of Donders, or gamma of Landolt and later writers; (4) paresis of accommodation; (5) length of the eyeball; (6) anatomic defects in the structure or insertion of the straight muscles, etc.

The fusion theory emphasizes the psychic phase of squint; for example, (1) faulty development of the fusion sense, or the power to fuse the images of the two eyes into one, with the resultant loss of binocular vision; (2) the psychic phenomenon of suppression of the image of one eye, especially liable to occur when the vision in said eye is reduced from any cause, (this, however, may occur when the vision is perfect in each eye, when the fusion sense is supposed to be congenitally absent).

Since Donders' time the physical phase of squint has been well understood and treatment has been applied in a more or less rational way to relieve the symptoms. For example, the error of refraction has been corrected; cycloplegics have been used, though unfortunately most of them in an incorrect way (that is, in both eyes at the same time, for a long period); and operations have been performed for placing the visual axes parallel. Furthermore, for a great number of years the absence of binocular vision has been recognized as a great factor in causing and maintaining squint, and various methods to remove the cause were devised and used in a more or less satisfactory way. We owe much to Landolt, Priestly Smith, Javal and others for their work on strabismus; especially are we indebted to Javal for his teachings on the value of orthoptic exercises; that is, the use of the occlusion pad and the various stereoscopic exercises. In later years great credit must be given to Worth for his recognition of the great part the fusion sense played in the production of squint, and the importance he gave to it in treatment. He asserts, and justly so, that it is of supreme importance to treat such patients very early and during the development period of the fusion sense, between the ages of 3 and 5 years, if we are to prevent amblyopia in the squinting eye and maintain the eyes parallel. His advice is to begin the treatment of squint as soon as it appears; to use atropin in one eye only, the fixing eye, after the glasses have been prescribed, and to operate for the squint at any age, when the angle of deviation ceases to improve under orthoptic treatment. This is eminently sound advice and has done much to clear up this difficult question.

TREATMENT

The methods and measures used in the treatment of squint may be best considered under two general headings; first, non-operative or orthoptic treatment; second, surgical treatment.

NON-OPERATIVE OR ORTHOPTIC TREATMENT

The different measures of this line of treatment may be considered under the following headings: (1) correction of the error of refraction; (2) use of the occlusion pad; (3) the use of cycloplegics in the fixing eye; (4) stereoscopic exercises for training the fusion sense.

Correction of the Refractive Error

In all cases of squint the refractive error should be corrected under the influence of cycloplegics. If hypermetropia or hypermetropic astigmatism is present, as is most frequently the case in convergent squint, the astigmatism should be corrected in full, but not the hypermetropia. With very few exceptions, I have made a reduction of 25 to 1 D from the total of hypermetropia, depending on the amount of the total hypermetropia. In small degrees I reduce only 25 D; in the higher a larger amount up to 1 D.

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[5] Worth: Squint, Ed. 3, p. 144.

Most text-books direct that full correction be given in these cases. Worth's book is the one exception. Like Worth, I have found that full correction of the hypermetropia, by dimming the vision for the distance, exerts a bad influence on the squint itself, in fact, simply serves to increase the defect; for this reason I have long since ceased giving full correction of the hypermetropia in squint cases.

In cases of antimetropia the hyperopic eye should be corrected as in the cases in which both eyes are hyperopic, while the myopic eye should have full correction, if there is a small or moderate degree of myopia, and almost full in high amounts. If the vision in the myopic eye is very poor, not owing to refractive errors, a plain glass should be given for this eye. By simply correcting the hyperopia a convergent squint in the myopic eye is sometimes relieved. I have some such cases in my case-books.

The questions, first as to the age of the patient when glasses should be given, and second, the length of time after the onset of the squint, are still matters of much discussion among the profession. Worth asserts that no infant is too young to wear glasses should they be required, and he reports cases in which he has fitted spectacles on patients of the tender age of 4 and 5 months. I have never prescribed a pair of glasses for a child under 18 months of age. Like the great majority of my confrères I have deferred giving glasses to infants, depending on the use of the occlusion pad, and atropin in the fixing eye only, to hold the vision in the deviating eye until the patient was old enough, say 2 years old, to have glasses. In private practice parents strongly object to having glasses placed on an infant's eyes, and I have found it difficult to have glasses ordered at 2 years of age. In hospital practice patients are rarely ever brought to us before that age, and even here the American parents refuse to have glasses placed on infants. When glasses are ordered they should be for constant wear.

Use of the Occlusion Pad and Cycloplegics

In infants the occlusion pad may be applied to the fixing eye and held in position by a bandage. This is kept on during the day and removed at night. In older children the pad may be held in place by adhesive tape. This treatment is kept up for three or four weeks, when it should be discontinued and atropin 0.5 per cent. solution, instilled into the eye every morning. By paralyzing the accommodation in this eye, often the other eye will be used to fix with, first for near objects, then for distant, after a few days or weeks treatment. Then the atropin should be left out of the better eye for a week or two to see if the child will not use the eyes together. If the squint returns in the original eye, atropin must be instilled again into the fixing eye, until the other eye is used. This alternating of the squint from one eye to the other can be kept up by the use of the atropin in the fixing eye only until the patient is old enough to have glasses. In older children, whose vision can be tested by some method, as the ivory balls recommended by Worth, the occlusion pad is kept on the fixing eye from two to six weeks, when it is removed. If the vision in the originally squinting eye is not too poor, not less than 20/100, atropin may be used in the fixing eye. This is kept up until the patient can fix with the squinting eye. At first the patient fixes with the originally squinting eye for the near point, and with the atropinized (original fixing) eye for the distant point. After a few weeks the patient will fix both for the near and the distant point with the originally squinting eye, and squint all the while with the originally fixing eye. The patient, of course, is wearing glasses which correct the refractive error. After we have succeeded in making the patient fix for all distances with the squinting eye for some weeks, the atropin should be left out of the originally fixing eye. If the originally fixing eye continues to squint after the atropin has been removed from it, it may be necessary even to put atropin for a few days in the originally squinting eye, which now is the fixing one. We thus keep up the alternation of squint, by the use of the atropin, first in one eye and then in the other, in order to develop the vision and fixation in each eye and to place the patient in condition for the fusion treatment.

Stereoscopic Exercises

Once we are able to use the stereoscope and to develop binocular vision in these little patients, especially to develop the fusion sense to the second or third degree—that is dimensions in the third degree—we have brought to bear a most powerful influence, the fusion sense, to correct the deviation and also to maintain the eyes parallel.

We are indebted to Javal for the first minute directions in stereoscopic exercises. Since his day there have been many others who have written much on this subject and devised many stereoscopes. Worth lays great stress on these exercises and asserts with Landolt and others, and justly so, I think— that they are of supreme importance in the cure of squint. The earlier begun the more efficacious they are, because the fusion sense is developed by the end of the sixth year, and to be of the best service these exercises must be begun and practiced between the age of 3 and 5, when the result is both satisfactory and brilliant. When undertaken after this age the result is slow to come and not very satisfactory, as the fusion sense is never able to be restored fully and binocular single vision seldom develops in the highest degree. There have been a few cases reported, however, in which binocular vision has been obtained long after 6 years of age. In cases of essential alternating squint these exercises are of little or no value, as the patient cannot be made to fuse the images, although in alternating squint the vision is perfect in each eye. Hence it is useless to waste time in trying stereoscopic exercises on such patients. Nor are these stereoscopic exercises of much value in cases of neuropathic squint.

In congenital squint stereoscopic exercises are of no use whatsoever. And, as pointed by our Chairman, Dr. Posey, in a paper[8] read before this Section three years ago, from the standpoint of treatment, the necessity of an early differential diagnosis between congenital and concommitant squint cannot be insisted on too strongly, for each manifestly demands different measures for its correction. Nothing but operative measures are of avail in congenital squint, hence the folly of subjecting these cases to amblyopic exercises.

OPERATIVE TREATMENT

Convergent Squint

In half to two thirds of the cases, convergent squint is not relieved by orthoptic or non-operative measures. The time to operate, both as regards the age of the patient and the onset of the squint, has been and always will be, I suppose, a matter of opinion of each surgeon.

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[8] Posey, W. A.: Congenital Squint, THE JOURNAL A. M. A., Oct. 26, 1907, xlix, 1428.

portunity offers. I thoroughly believe in Donders' theory as to hyperopia being a cause of internal squint. Put the glasses on in some cases and the eyes swing straight; raise them, and they cross.

Dr. Davis has given credit to foreigners for practically everything he has said. To Americans the credit is due for the operative procedures that are worth while in the treatment of squint. Much credit to Worth for his teachings concerning the orthoptic treatment! All credit to Donders for bringing out his theory, which is correct, but only one factor. But all the operative procedures worth while have been carried out first in America and by Americans. The only advancement operation that is worth considering—the flat advancement operations, without cutting the tendon—was devised by an American, Lagleize, whom no one here has ever seen. All others pale into insignificance. To Stevens, of New York, is due the credit of turning men by degrees from complete tenotomy. Partial tenotomy associated with the Lagleize operation, if the latter does not straighten the eye, is the ideal tenotomy. The shortening operation, condemned by Dr. Davis, because he doesn't know it better, is the best operation. I am proud of it, because so many men in the United States want to claim it. The shortening operation is the ideal operation, and is safer and better than the Lagleize operation in the degrees of squint that do not demand the advancement operation. Do you want to know who devised it? "Ask the wild waves," and the answer will come back, "Savage."

Dr. Lucien Howe, Buffalo, N. Y.: We misunderstand each other and have such widely divergent views because of the terms we use. The first thing we need to appreciate is the vagueness of the term "squint." That may mean simply a deviation inward or outward. We also use the word "strabismus" without qualification and only understand that the eye turns in or out. Suppose we say convergent or divergent strabismus, or esotropia or exotropia. What does that mean? It indicates the direction in which the eye turns, but that is all. I think that the time is not far distant when we must go a step further and ask whether the eye turns in because of excessive action of the adductors, or because of insufficient action of the abductors; whether it is an active or a passive esotropia. I used to think that every case of turning in was simply excessive action of the abductors. But I have learned to take more time to study the cases before making a diagnosis. We should study such cases, not simply under atropin to obtain the refraction, but as to the excursion which the eye makes as seen by some form of the tropometer, or, still better, to ascertain the lifting power with an arrangement I showed last year; or, in difficult and important cases, it may even be worth while to photograph the swing of the globe. When we take the time to study our cases patiently and carefully, and to make exact diagnoses, then and not till then shall you and I know what we are talking about. We shall know then whether, in a given case, for example, we are dealing with an active esotropia or a passive esotropia. That will also answer the question whether in that case we should make teontomy or advancement.

Dr. W. Zentmayer, Philadelphia: Dr. Black spoke of the fusion faculty in his own experiments. It seems to me we must make a distinction between the motor fusion faculty and the cerebral fusion faculty, and I have taken it for granted, although Worth is not entirely clear in this matter, that he intends to convey that a cerebral fusion faculty is at fault. *In regard* to Dr. Reber's cases of heredity, I would like to ask him whether the heredity factor was not the high degree of hyperopia? I also do not believe that Worth refers to a fusion center, but to a fusion sense. In regard to myopes having convergent squint, I believe the other causes of squint will clear this up without referring them to the group of fusion faculty failure.

Dr. A. E. Davis, New York: In my paper I have said that it requires both theories (Donders' and Worth's) to account for all cases of squint, and I think it does without any question. Perhaps that is why Worth was looking around to find some of those exceptional cases that his theory would fit, as Dr. Zentmayer has just said. I wanted to give a reason to account for the general mass of cases. We have had all the other contributing causes in our experience which I have mentioned in my paper—false attachment of the muscles and other causes. As to giving credit to any nation or man or set of men, I think that science should be wide as the universe itself. I certainly did not want to quote foreigners exclusively—to be pedantic—but we cannot go back on our master, Donders. It is amazing how few advances in refraction we have had since Donders. He even used the ophthalmometer and made accurate measurements. We have advanced very little, so far as refraction is concerned, since his time. As to alternating squints, it is significant that a great number of cases can be accounted for by the accommodation theory; that is, if one will take the trouble to look over one's case book, one will find that perhaps 90 per cent. are hypermetropic. The tests in alternating squint show almost without exception that it is a convergent squint. Worth insists that this form of squint is due to the fusion faculty being at fault. I think he is mistaken in that. I do wish, however, to give Worth credit for his insistence on the early treatment of squint, the use of atropin in one eye alone, and not giving full correction of the spherical part of the error of refraction in such cases. I think he is right in all three instances.

CLASSIFICATION OF APPENDICITIS

AND THE RELATION OF CHRONIC APPENDICITIS TO OBLITERATION OF THE LUMEN, CARCINOMA AND DISTURBANCES IN THE GASTRO-HEPATICO-DUODENO-PANCREATIC PHYSIOLOGIC SYSTEM [*]

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The enormous amount of literature and the unsatisfactory discussions which have been evoked by the appendix, the numerous and varied classifications of inflammation in this anatomic vestige, the attempt to fit pathologic classifications of the subject to the clinical groups of cases and the varying opinions as to whether or not obliteration occurs as a physiologic involution or as the result of inflammatory reaction, and whether or not there is any etiologic relationship between the appendix and conditions in the stomach, duodenum and bile passages,[*] have been the stimuli for this extensive investigation of such a common subject.

The object was not to combat any pathologic or clinical classification of the condition or theory of obliteration, but to confirm or disprove; to consider the subject in such a manner that the clinician and pathologist might better understand each other, and to bring to both a more intimate consideration of processes in nature rather than dogmatic ideas of pathology and clinical medicine.

The material consists of the appendices removed by Drs. W. J. and C. H. Mayo and E. S. Judd in St. Mary's Hospital, Rochester, Minn. The cases were taken in order of removal during the years 1906, 1907, 1908 and 1909. They were studied in *three groups*, namely: (1) appendices removed for appendicitis alone, (2) appendices removed during operation for other conditions in the abdomen, and (3) appendices removed from patients operated on for cholecystitis and cholelithiasis.

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[*] Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-first Annual Session, held at St. Louis, June, 1910.

[*] A report on the pathologic examination of 5,000 specimens with a comparative study of the pathology and the clinical histories in 2,000 cases. The monograph of which this is an *abstract* will appear later.

In only 2,000 of the cases were the histories examined and compared with the pathologic findings. Of these 1,005 specimens were removed for appendicitis alone and 995 in conjunction with other conditions, such as fibroids of the uterus, carcinoma of the uterus, ovarian cysts, retroverted uteri, hernia, cholecystitis, "pyloric spasm," duodenal and gastric ulcers, etc.

In 5,000 cases, including the 2,000 with the histories, the specimens were examined especially with the idea of studying the reaction to infection of an organ which varies so broadly anatomically and is exposed to such a great variety of pathogenic organisms. During this examination notes, diagrams and photographs were made of the general inflammatory pictures found and the occurrence of obliteration, carcinoma, diverticula and foreign bodies.

The specimens, which had been preserved in 3.7 per cent. formaldehyd solution, were cut in gross series, the blocks ranging from 2 mm. to 4 mm. in thickness. The series was made from the tip to the base and each layer of the wall was studied grossly. All cases not showing definite gross lesions were examined microscopically by means of frozen and celloidin sections.

OBLITERATION OF LUMEN

The examination of this series of cases has shown that obliteration[1] of the lumen of the appendix may begin as early as the fifth year of life and be complete at the tenth year of life. The wide variation in the age during which the process of obliteration occurs may be seen from these facts, and that at the age of 67 the tip alone may be obliterated. Ribbert,[2] who has been the chief exponent of the physiologic involution-idea of the process of obliteration and the authority most commonly quoted, found that the percentage of obliterated appendices increased with the increase of the decades. This observation was made on autopsy material and is correct when one considers all stages of obliteration, including complete obliteration. From this standpoint his observations are confirmed by this series. The error, however, into which he and others have fallen is in taking all cases, partial and complete. It is impossible to determine at what age the process ceased to act in an appendix, the lumen of which is completely obliterated, because the individual may have carried it completely obliterated since the age of 10 years. Therefore it is only fair to consider cases in which the process of obliteration is not complete. If this is done it will be seen that the process does not increase gradually with the decades.

TABLE SHOWING PERCENTAGE OF APPENDICES WITH PARTIALLY OR COMPLETELY OBLITERATED LUMINA AT VARIOUS AGES

	Ribbert.	MacCarty.	
Age.	Partial and Complete Percentage.	Complete Percentage.	Partial Percentage.
1-10 years..........	4	0	11
10-20 years..........	11	3	17
20-30 years..........	17	8	16
30-40 years..........	25	15	22
40-50 years..........	27	16	17
50-60 years..........	36	17	21
60-70 years..........	53	50	50
70-80 years..........	58	0	0

The variation in the percentage of partially obliterated cases is greatest between the fifth year and the fortieth year. The percentage then decreases and rises again to the seventieth year. The same sudden rise is seen when one examines the totally obliterated specimens but the percentages between the fifth and fortieth years gradually increase instead of decrease. This seems to me to be strong evidence which may be added to the histologic picture of inflammation in obliteration.

The time at which the examination of the appendix is made greatly modifies the conception of the age at which obliteration occurs. The average age at which the tip is found to be obliterated in cases of appendicitis is 29.8 years and the average in the appendices which were removed at the time of operation for cholecystitis is 39.1 years. This is a wide variation and is parallel with the average ages at which operations for appendicitis and cholecystitis occur, namely, respectively 25.5 years and 39.9 years.

An examination of the average ages at which the different degrees of obliteration occur shows that the average ages of the increasing amounts of obliteration increases gradualy from 29.8 years—which is the average age for tip obliteration—to 34.6 years, which is the average age for total obliteration. The difference of four years between these two gives the approximate duration of the process of obliteration. This is exceedingly short for a natural physiologic involutionary process, especially when one considers that it may occur at a very early age and at any time from 5 years to old age.

It is fair, from these figures and others which time does not permit giving, to state that the process of obliteration is not a physiologic involution which begins at the tip and gradually involves the entire appendix, but a pathologic process, resulting from chronic inflammation.

CARCINOMA

The occurrence of carcinoma in such a large series is of interest. During this examination twenty-two cases of carcinoma were found. In seventeen of the specimens (77 per cent.) the diagnosis was not possible from the external appearance. In one of the seventeen the growth had made its way through to the serosa and was visible as a small orange-colored speck about 0.5 mm. in diameter. This on gross external examination was thought to be fat in the subserosa. Microscopic examination revealed it to be carcinoma which had reached this point through the lymphatics.

In none of the seventeen specimens was there any definite enlargement to indicate the presence of a neoplasm.

Ninety per cent. occurred in partially obliterated appendices and all were associated with marked chronic inflammation.

The growth itself on gross section appears as an orange-colored, homogeneous or finely granular mass occupying the center of the section, a quadrant or all of the coats excepting the muscularis, subserosa and serosa.

The color is characteristic in specimens preserved in formaldehyd solution. In all cases there was the same orange color. This is very important in distinguishing the neoplasm from lemon-yellow fat, which occurs in the submucosa and subserosa, especially in chronically inflamed or obliterated specimens.

Microscopically the growth consists of alveoli filled with epithelial cells, the nuclei of which are in general oval or round and present fewer irregularities than one usually sees in carcinoma in other portions of the alimentary canal. The size and lack of marked irregularity on the part of the nuclei, as well as the alveolar arrangement and staining quality, have been the cause of some observers calling the neoplasms endotheliomata and basal-cell carcinomata.

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[1] In describing total obliteration of the lumen of the appendix in this paper it must be considered that a small part of the appendix was inverted at operation, and that "total" means the whole specimen in the laboratory.

[2] Ribbert: Virchows Arch. f. path. Anat., cxxxii, 66.

If one, however, examines with the high power the nuclei of remaining glands in appendices the lumina of which are being obliterated it will be seen that there are gradations from simple hyperplasia to carcinoma.

There was nothing in the clinical histories to suggest carcinoma; in fact, one specimen was found accidentally in a man aged 80 years, who died after removal of a stone from the bladder.

Carcinoma occurred in this series as early as 5 years and as late as 80 years. Thirty-one per cent. of the carcinomata were found in appendices removed in association with other abdominal conditions. It occurred in females in 73 per cent. The longest duration of the symptom was fifteen years and the shortest duration was three weeks.

In the first 2,000 specimens examined it occurred in 2.2 per cent. of the partially or completely obliterated appendices and in 0.6 per cent. of all appendices.

In the complete series of 5,000 specimens it occurred in 1.6 per cent. of partially or completely obliterated appendices and 0.44 per cent. of all specimens.

DIVERTICULA

Diverticula of the appendix occurred, usually as a multiple condition, in seventeen cases. They are grossly visible but vary greatly in size, the largest in the series being about 0.5 cm. in diameter and projecting beyond the surface about 0.5 cm. They are covered by serosa and vary in color according to their contents. They consist of an evagination of the submucosa, muscularis mucosæ and mucosa through a hole in the muscular coats. The edges of this hole are rounded off and permit the tissue of the submucosa, which fuses with the subserosa, to pass around it in a well-defined manner. The wall of the diverticula consists only of the mucosa, muscularis mucosæ, submucosa, subserosa and serosa. These coats are thinner than normal.

The condition was found in a wide range of ages, the eldest 64 years and the youngest 18 years.

Fifty-six per cent. of the cases occurred in acute appendicitis; 56 per cent. occurred in females. The only cases that were found in association with other conditions were removed with gall-stones. Of these there were two, or 12 per cent. of the cases, which occurred with gall-stones. In one of these the appendicitis was subacute and in the other acute. The average duration of the symptoms was seven years and the average age at operation was 34 years. None of these patients gave a history of jaundice. Two complained of pain in the epigastrium and one in the right hypochondrium. The condition does not seem to bring about symptoms as early in life as appendicitis ordinarily does, but a higher percentage seem to be acute.

In regard to the question which has been raised in studies made by me on gastric ulcer[3] and cholecystitis,[4] that is, whether or not there is any etiologic relationship between the chronic inflammatory process in the appendix and disturbances in the stomach, duodenum and bile-passages; the following observations are of interest:

In the previous studies it was found that 23.2 per cent. of 365 cases in which cholecystectomy was performed showed symptoms which began at or under 25 years of age, and that 13 per cent. of the cases gave definite histories of pain or soreness in the region of the appendix. In 59 of these cases of cholecystitis the appendices were removed and 69 per cent. showed undoubted gross or microscopic evidence of inflammation varying from a chronic catarrhal condition to complete obliteration and periappendicitis.

In the present report of cases 52 per cent. of 175 cases of cholecystitis with or without stones gave histories of pain in the region of the appendix.

In 1,147 histories which include all the cases of appendicitis and appendices removed during operation for conditions other than cholecystitis with or without stones, there was a history of pain in the epigastrium or right hypochondrium in 13 per cent. In 9.4 per cent. there was pain in the abdomen and in 14.6 per cent. pain in the abdomen which radiated to and became localized in the appendix region.

A consideration of the average duration from the onset of symptoms to operation in appendicitis, cholecystitis and cholelithiasis reveals respectively 2 years, 4.9 years, and 6.5 years. It may be seen that the average duration in cases of cholecystitis lies between the average in appendicitis and cholelithiasis.

The questions arise: Is this a mere coincidence, especially when we know that simple cholecystitis precedes gall-stones? Is there any relationship between these conditions? Are we dealing with a process which manifests itself in three stages, namely, appendicitis, simple cholecystitis and cholecystitis with stones?

The average age of patients at onset of the symptoms in these three conditions is also of interest, although there is not the same parallel. In appendicitis it is 23.5 years, in cholecystitis 34.7 years, while in cholelithiasis it is 33.8 years. There is one thing to be considered, however, and that is the fact that the symptoms in cholelithiasis are likely to be very much more sudden and severe and therefore demand earlier attention than in simple cholecystitis.

There is a very marked contrast between the percentage of appendices with partially or completely obliterated lumina at autopsy and at operation for appendicitis and that of appendices which have been removed in association with cholecystitis and cholelithiasis: 23.5 per cent. at operation; 12 per cent. (Nowicki), 16.6 per cent. (Toft), 25 per cent. (Ribbert), 14 per cent. (Zuckerkandl), 22.6 per cent. (Sudsuki), 20 per cent. (Sprenzel), 11 per cent. (Ciechanowski and Gliniski)[5] at autopsy, and 52 per cent. in association with inflammatory conditions in the gall-bladder have partially or completely obliterated lumina.

Eight and seven-tenths per cent. of 2,000 appendices were associated with cholecystitis.

In spite of the fact that the male patients operated on for appendicitis formed a higher percentage than did the females (55.5 per cent. males and 44.5 per cent. females), partial obliteration of the lumen occurred more often in females (55.2 per cent. females and 44.8 per cent. males). This may be one of the coincidences which lead to false deductions in all statistics, but the figures are sufficiently significant to keep in mind as possible evidence of the probable fact that the inflammatory process in the appendix causes disturbances in the bile passages directly or indirectly and may have some relation to the fact that cholecystitis is decidedly more frequent in females than in males.

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[3] MacCarty: Surg., Gynec. and Obst., May, 1910.

[4] MacCarty: Ann. Surg., May, 1910.

[5] MacCarty: Virchows Arch. f. path. Anat., 1906, clxxxv, 504; Nowicki: Virchows Arch. f. path. Anat., cxcv, 197

Foreign bodies and hard fecoliths occurred in 57 specimens in the complete series. The foreign bodies consisted of short hairs, tooth-brush bristles, shot, gall-stones, fruit-seeds, pins and worms.

CLASSIFICATION

An examination of the literature on the subject of appendicitis reveals a great variety of classifications of the condition. Many of these are based on pathology and clinical histories; some have been made by the clinician, some by the surgeon and some by the pathologist. In the literature these have been used indiscriminately to describe clinical, surgical and pathologic pictures, resulting in a confusion of ideas of the condition, especially on the part of the clinician and surgeon.

Intimacy with a large series of cases clinically, surgically and pathologically brings about a conception of appendicitis which is devoid of sharp clinical, surgical and pathological entities. The conditions are apparently the results of a process dependent on the peculiar structure of an anatomic vestige, its precarious situation and exposure to many pathogenic organisms and trauma.

The results of these and perhaps other obscurer and less defined etiologic factors group themselves according to the point of view. To the clinician who sees only the exterior of his patient and studies the reaction of the whole organism to the local condition from the standpoint of fever, chills, pain, nausea, vomiting and onset of the symptoms, the condition is one which confines itself either definitely to the appendix or to possibilities of which the appendix is but one. If confined to the appendix four conditions are possible, namely, acute, chronic and subacute appendicitis or periappendicitis, the latter being the result of one or more of the other three.

To the surgeon, who is interested in the real pathologic condition secondarily to his immediate mission, the removal of a condition detrimental to life, the appendix on exposure may reveal its exact pathology on a careful study of its exterior. To him the most important conditions in their order of importance are: acute periappendicitis, peritonitis, acute appendicitis, chronic periappendicitis, subacute appendicitis, chronic catarrhal appendicitis, complete or partial obliteration and carcinoma.

To the pathologist the classification of the conditions found is similar to that made for the surgeon, but includes the acute catarrhal condition, which is rarely if ever seen in the strictest sense. It is difficult to obtain a specimen in which the term "acute catarrhal" can be correctly used unless the term be extended beyond its real meaning and be allowed to include the extension of the process in the mucosa to the underlying submucosa, lymph follicles, and even through the lymphatics to the subserosa. The extension of the condition is so rapid when the process in the mucosa is acute that it is difficult to conceive of it being confined to the mucosa, which the name signifies.

It may be well, however, since the term has become so well established in our nomenclature to continue its usage with the modification that although the process has its origin in the mucosa, the submucosa and follicles share very early in the reaction. Indeed, the serosa may be congested without the wall showing enough leucocytes to cause the condition to be called purulent or necrotic.

With this broad idea of the term catarrhal the specimens in this series group themselves under the following terms:[6]

1. *Appendicitis Catarrhalis Acuta.*—A condition in which the mucosa is infiltrated with leukocytes and is congested; there is a reaction in the lymph follicles and lymphatic tissue of the submucosa. The lymph spaces or vessels in all the other coats may also contain leukocytes.
2. *Appendicitis Catarrhalis Chronica.*—Arises as a result of repeated mild or severe acute catarrhal conditions and is marked by an increase of scar-tissue and distortion of the normal regularity of the coats and the glands. Blood pigment is very frequently present in the mucosa.
3. *Appendicitis Purulenta Necrotica.*—An advanced stage of the acute catarrhal condition, plus the formation of intramural abscesses and necrosis.
4. *Periappendicitis Acuta.*—Merely describes an extension of the conditions just described to the peritoneum. The subserosa and serosa become congested, purulent or necrotic. The scar-tissue remains of such a condition may be described as *periappendicitis chronica.*
5. *Obliteration.*—A condition of the lumen of the appendix which occurs as the result of destruction of the mucosa and formation of scar-tissue in the submucosa and other coats. It occurs in any portion of the lumen.

CONCLUSIONS

1. Of all appendices removed at operation 23.5 per cent. are partially or completely obliterated.
2. The shortest duration of the process of obliteration when it is continuous is less than ten years.
3. The process may be complete at 10 years of age.
4. Obliteration does not occur as a physiologic involutionary process, but is dependent on a definite inflammatory reaction.
5. In a series of 2,000 specimens 0.6 per cent., or about 1 in every 175 appendices removed at operation are malignant.
6. In a series of 5,000 specimens 0.44 per cent., or about 1 in every 225 appendices removed at operation are malignant.
7. In a series of 2,000 specimens 2.2 per cent., or about 1 in every 40 partially or completely obliterated appendices are malignant.
8. In a series of 5,000 specimens 1.6 per cent., or about 1 in every 53 partially or completely obliterated appendices are malignant.
9. Carcinoma of the appendix may occur as early as 5 years of age and as late as 80 years of age.
10. Of the carcinomata of the appendix found in this series 77 per cent. were not capable of being diagnosed from the gross external appearance.
11. All appendices with partially or completely obliterated lumina should be removed during operation for other abdominal conditions when it can be done without materially endangering the life of the patient.

I wish to express my appreciation of the valuable assistance rendered me by Bernard Francis McGrath, M.D., laboratory assistant.

ABSTRACT OF DISCUSSION

Dr. H. G. Wells, Chicago: I should like to ask Dr. MacCarty what are his views as to the histologic type of carcinoma present in such cases.

Dr. J. F. Hultgen, Chicago: Dr. MacCarty's paper suggests to me strongly the anatomic basis of the biology of infection of the gall-bladder and appendix. The question of appendicitis is not merely of bacteriologic, but also of biologic interest. I should like to know whether Dr. MacCarty means that this atrophy of the lymphoid tissue is accompanied by atrophy of the muscular tissue and by destruction of the agminated lymph-follicles and Peyer's patches? Does this very atrophy of the glandular elements not rather suggest the natural tendency toward healing of appendicitis?

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[6] MacCarty: Virchows Arch. f. path. Anat., 1906, clxxxv, 515.

Dr. W. C. MacCarty, Rochester, Minn.: In the very early neoplasms which are reported here the growth extends only to the musculature, and in these specimens there is an alveolar arrangement of the cells. There is a marked resemblance of the tumor to an endothelioma. The nuclei do not take the stain well, the protoplasm is clear and the cells have been described as endothelium.

If one examines the epithelial rests in appendices the lumina of which are being obliterated, it will be seen that there are all stages of hyperplasia and that these tumor cells really are the outgrowth of the normal epithelium of the mucosa. They differ greatly from the epithelium in other portions of the alimentary tract. Just how malignant they are I cannot say.

I think that most pathologists and physiologists to-day agree that there is no such thing as a physiologic disappearance of the appendix. The men we should be anxious to reach are the surgeons who are constantly dealing with the appendix, and who are leaving partially and completely obliterated appendices because they think them physiologic and not pathologic. The condition, however, is the result of an inflammatory process and is apparently a forerunner of carcinoma, as may be seen from the fact that 90 per cent. of the carcinomas occur in partially or completely obliterated appendices.

I have had twenty-two specimens of carcinoma of the cecum, and they did not, apparently, arise in the appendix. This is to be expected when we realize that the majority of the carcinomas of the appendix occur in the tip and give rise to symptoms of appendicitis before the cecum becomes involved. Some carcinomas of the cecum, however, may arise in the appendix. Elting has reported cases in which carcinoma of the cecum followed carcinoma of the appendix. All of the cases of carcinoma of the appendix in my series were very early and recognizable only after gross section of otherwise apparently normal appendices or subacute appendicitis.

THE TEETH AS AN IMPORTANT FACTOR IN PATHOGENESIS *

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My object is to call the attention of physicians and dentists alike to the importance of further study and preparation for work in a field which has no hard and fast boundaries but which is widely overlapped by both medicine and dentistry. Because of the diverse relations of medicine to dentistry and dentistry to medicine it is important that the dentist be versed in general medicine; also that the physician be conversant with more of the general conditions which make up the specialty called dentistry, which has been known as a profession apart from and unconnected with medicine. It is necessary that the practitioner, whether he be dentist or physician, should understand the etiology and pathology as it pertains to the case in hand, a living pathology, as it were. Only this condition permits of the practice of logical therapeutics.

The teeth, during the entire life of the individual, play an important rôle, both directly and indirectly, in the maintenance of health and in the production of disease, and any deviation from the physiologic may give rise to pathologic conditions affecting the general economy.

The chief functions of the teeth are, first, mastication of food in order that the digestive juices may properly effect the changes necessary to absorption and assimilation; second, molding and maintenance of facial contour.

Pathologic conditions, due directly or indirectly to the teeth, occur before the eruption of the temporary teeth, during their eruption and after eruption, and also during their loss, in giving place to the erupting permanent teeth. The immediate pathologic conditions caused by unerupted temporary teeth are very few, but the remains of the primary tooth germ may give rise to cyst formation before the development of the follicles of the permanent teeth. Congenital epulis has been observed, the microscopic examination showing the tumor to be of dental origin. The diseases, the cause of which has been attributed to the eruption of the temporary teeth, are legion, but their number is being steadily reduced by the scientific work of skilled pediatricians. There are, however, some conditions which may be traced directly to difficult dentition and others in which it occurs as a coincidence. Nevertheless, the erupting teeth do modify the course of the disease, rendering the primary condition much more difficult to cope with. The chief danger lies in the fact that, because the child is "teething," no further search is made for pathologic conditions which may exist in brain, kidneys, gastro-intestinal tract, lungs, etc. Without doubt, difficult dentition gives rise to reflex symptoms, some of which may become alarming, especially in undernourished or rachitic children.

The fully erupted temporary teeth are subject to the same conditions as those which affect the permanent teeth, and give rise to a long chain of pathologic conditions. Normal teeth, with live pulps, rarely give rise to symptoms referable to the pulps themselves, but when caries attack them the pulps are irritated by chemicals, sweets, changes of temperature and pressure from the food substances, with resulting toothache, which may cause reflex earache. Many a child has spent a sleepless night on account of an irritated tooth-pulp. As the result of carious teeth and exposed pulps the child becomes ill-nourished, because he will not masticate his food, thereby laying the foundation for gastro-intestinal trouble in the future.

Of more importance is the retention within carious cavities of decomposing foodstuffs, and bacteria which are not of the disease-producing types, namely, bacteria of putrefaction. The final products of such bacterial activity are absorbed by the buccal and pharyngeal mucous membranes, as well as swallowed, and the dire results are seen in gastro-intestinal disease, malnutrition and lack of physical and mental growth.

Cervical and general lymphadenopathy are undoubtedly due many times to absorption of toxins, which may be found anywhere within the body. Not only do carious cavities harbor non-pathogenic bacteria, but pathogenic ones as well, and from this depot they are disseminated, gaining entrance into the organism through the apices of the roots, abraded mucous membranes, tonsils, gastro-intestinal tract and lungs. Arthritis, affecting any or all joints of the body, may be caused by infection harbored by the teeth or caused by pathologic diseases of the teeth.

The blind abscess, or carious process affecting the bone at the apices of the roots, or the chronic one with a fistula, or pyorrhea, is not benign, even though the patient suffers little from it, because a complete or par-

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* Read in the Section on Stomatology of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.

tial ankylosis of any joint, especially the larger ones, may result from it.

There are many complications and sequelæ following the death of a tooth-pulp. Foremost is the formation of an alveolar abscess, which is essentially an osteomyelitis, and which requires exactly the same surgical treatment as osteomyelitis in other parts of the body. Alveolar abscess without death of the pulp is extremely rare, although at times root abscesses are seen. Alveolar abscesses may be acute or chronic. With the acute form we have pain, swelling, more or less trismus, with cervical adenitis, which may or may not go on to suppuration. After the pus has broken through the periosteum it burrows in the direction of least resistance and may make its appearance anywhere on the lower part of the face, or neck, and at times at the clavicle. Not infrequently a secondary infection with streptococcus gives the clinical picture of a Ludwig's angina. If the periosteum of the jaw is elevated from the bone for a sufficient length of time, necrosis, with loss even of the whole jaw, results.

Without doubt the extraction of a tooth which gives rise to an alveolar abscess it at times contraindicated, and extraction only intensifies the result of the infection. The reason is given by the conditions requiring surgical interference which exist in other parts of the body, namely, abscess formation which cannot be aborted. By that is meant that the infection may be overcome by the vital forces of the body in destroying the bacteria and rendering their poisonous properties inactive; but that when this cannot be done the indications are that the source of infection be eradicated and drainage established. Very little absorption takes place without pressure. If, in the effort to eradicate the source and establish drainage, the operation is improperly done, the process continues and is more wide-spread because of the traumatism to the parts. This is what happens when a tooth is extracted at the height of infection and before the formation of pus. The source of infection may be removed, but drainage is not facilitated, and the traumatized tissues are more susceptible. After the formation of pus, extraction facilitates drainage through the socket because of the destruction of tissue at the apex, and this cavity communicates with the socket.

The chronic form of abscess may result from an acute one, or it may never exhibit acute symptoms. Either the organisms have become attenuated or are of the very mild type. The process ends in a fistula, which may open within the mouth or on the surface. Chronic intoxication, with anemia, gastro-intestinal disturbances and chronic cervical adenitis or rheumatism, may result. This condition continues until the source of infection is eradicated.

After the crowns of temporary teeth have been destroyed by caries the roots form receptacles for retention of putrefactive substances. Their rough surfaces often abrade the tongue and soft parts, thereby causing infection atria, not only for the pus cocci, but for tuberculosis and other infective granulomata as well. Microscopic examinations of the tongues and mouths of cattle frequently show abrasions, especially at the base of the tongue, which contain the ray fungus. Normally the temporary teeth retain their live pulps until they are replaced by permanent ones. The roots of temporary teeth whose pulps have died are not as readily absorbed, and such unabsorbed teeth deflect the permanent teeth from their normal course, with the resulting irregularity which is so disastrous. Not only should the pulps of temporary teeth be kept alive, but the crowns should be retained. If caries occur the normal contour of the crown should be restored. Otherwise, when the permanent teeth make their appearance, the arch is so contracted that there is no room for them, and the result is irregularity and malocclusion, with perverted facial contour, high or saddle arches, with coexisting adenoids, mouth-breathing, lack of mental and physical development. The loss of temporary teeth, whether from caries or by extraction by the ignorant or unscrupulous, results most certainly in the foregoing conditions. So much for the temporary teeth.

Much which has been said regarding the temporary teeth applies as well to the permanent teeth, but there are other conditions which should be recognized by physicians and dentists as having their origin in the permanent teeth. Before eruption the teeth give rise to cysts and tumors, the part of the tooth from which it springs determining the character of the growth. Follicular cysts may contain any or all of the anatomic parts of the teeth. Follicular cysts usually make their appearance between the twelfth and the sixteenth years, corresponding to the tooth development, although they may occur in infancy, having developed from the follicles of the temporary teeth, or, later in life, not infrequently from the third molar. The most frequently occurring cysts of the jaws are the root cysts. These develop from the granulomata at the ends of the roots, whose pulps have been destroyed through caries and exposures. The cystic formation is due to epithelial development, which is stimulated by the chronic infection about the apices of such roots, the epithelial development having its origin in the remains of the epithelium which dips down from the mucous membrane of the gums to form the tooth germs, the epithelial débris of the French. It is these cysts, usually of slow growth and without symptoms, which, by pressure-atrophy of the bone, advance and encroach on the facial sinuses and on the nasal fossæ, even occurring in the roof of the mouth or filling out the maxillary sinus, and known as hydrops of the antrum of Highmore. At times pressure on nerve-trunks causes neuralgia, but this is rare, neuralgia being caused more frequently from hard growths. They never contain tooth elements.

Multilocular cysts and the benign solid epitheliomata belong in the same class, the multilocular form springing from the enamel organ, the others being a development of one or all of the individual elements of the tooth follicle. They present the following forms: embryoplastic, odontoplastic, coronary, radicular, compound and heteroplastic odontomata. Further, we have, at times, hard tumors of the tooth substance which are attached to the other teeth. All of these cysts and tumors produce symptoms and signs relative to the site of their development and interference with normal function. But, aside from these, any of them may become infected. In such a case it may be difficult to arrive at an exact diagnosis, which is the key to surgical relief. Non-erupted teeth may or may not give rise to symptoms referable to local conditions or to remote parts. Not infrequently fully formed teeth lie in cystic cavities whose whole walls are of connective tissue instead of epithelium. They may occur near the normal arch or in parts somewhat remote, as entirely within the antrum of Highmore, or high up within the ramus, or they may be projected through the mandible. When near the arch the roots of other teeth are frequently eroded and their vessels and nerves encroached on, causing neuralgic pains. Often the larger nerve-trunks are pressed on by them, giving rise to severe neuralgia.

Non-erupted teeth cause other troubles the importance of which cannot be overestimated, namely, reflex disturbances referable to almost any of the cranial nerves, also taking in a much wider scope, namely, that of impaired mental conditions. Given a patient of a neurotic family, with poorly balanced nervous mechanism, having epilepsy, chorea, habit spasm, etc., it is plain that irritation, even of a mild but continuous character, will exaggerate the symptoms of the primary trouble. Further, the irritation of unerupted or impacted teeth at the changes in the cycle of life will produce more of an effect on the organism than when no great changes are taking place. Upson, of Cleveland, has recently made a study of fifty-eight cases, including manic-depressive insanity, dementia praecox, psychosis, insomnia and neurasthenia, thirty of the patients having impacted teeth. Forty-two patients were operated on; fourteen recovered; seven are convalescent; twelve improved; three unimproved; six, no data. This work opens up a rich field for research and promises great benefit to the sadly afflicted patients. I might add, in this connection, that my experience in operating on insane patients at the Illinois Central Hospital for the Insane, especially those who had been insane for a long time, seems to warrant a belief that any operation on them results in a temporary brightening of their mental faculties.

Sapremia, as the term is used in surgery, is the absorption of poisonous products from bacteria in wounds of the body. It matters not how these poisons are absorbed, whether from a wound, by the mucous membrane of the mouth, or alimentary canal. The bacteria of putrefaction act on nitrogenous substances which lodge in tooth cavities, and their toxins are liberated in the mouth and are either absorbed or swallowed. Thus the patient is a victim of slow ptomain poisoning or, if you please, leukomain poisoning.

Of the myriads of bacteria found in the mouth, only a few can be said to be indigenous. Professor Black has reduced their number to about fifteen different varieties, all practically non-pathogenic. All others have been introduced with food and drink or have been aspirated and, as a rule, are not long retained within the mouth. This speaks for the practicability of prophylaxis and cleanliness. The colon bacillus, paratyphoid, *Micrococcus lanceolatus*, with the putrefactive bacteria, are productive of most of the toxins which are injurious to the organism. The pathogenic bacteria are also retained in an unclean and carious mouth and are a constant source of danger.

Atrophy of the teeth occurring in the central incisors, in which there is a lack of development of the middle lobe and a closing in of the other lobes, possibly an effort of Nature to fill in the space, was first pointed out by Hutchinson, of London, but he unfortunately ascribed the cause to congenital syphilis alone. This theory was taken up by clinicians and medical writers and has been handed down in one text-book after another until it has become so rooted in medicine as to be well-nigh impossible of change. Congenital syphilis may be the cause of Hutchinson's teeth, but it is not the sole cause, as they may be caused by any condition which seriously impairs metabolism at the time when this part of the tooth is in the process of calcification.

Normally shaped teeth appearing normally in a normal arch, unaffected by caries, give rise to no pathologic conditions. When they are affected by caries they give rise to the same conditions as described under caries of the temporary teeth. Malocclusion gives rise to many deplorable conditions which could have been avoided had the mouth been in the care of a competent dentist, especially at the time of eruption of the sixth-year molars. The cusps of these four teeth when in proper relation with each other retain the jaws in normal relation with each other, being reenforced by the other teeth as they appear. But when these cusps are not in proper relation with each other malposition and malocclusion are exaggerated as time goes on, with resulting prognathism, agnathism and faulty facial contour due to lack of development of the bones of the face and nose. These teeth, coming in before the child has lost any of the temporary teeth, are often mistaken for temporary teeth and, through deplorable ignorance, are allowed to be destroyed by caries, the popular opinion being that they are temporary teeth and will soon be lost, and there is no necessity for having them filled.

Malocclusion interferes with normal function of the teeth, and when that function is interfered with, the teeth, the interdental spaces, peridental membranes and all the tissues, hard and soft, in relation with them, become a prey to pathologic processes, namely, caries, loss of contact with impaction of food, pyorrhea alveolaris, calcareous deposits, recession of the gums, and absorption of the alveolar septum.

Impaction and complications following occur frequently in connection with the third molars below. Above, the third molars are often inclined outward and backward and, in consequence, the mucous membrane becomes abraded, food is also retained behind such teeth and fermentation or putrefaction follows. Impaction of the third molars may be of various degrees. It may occur entirely beneath the gum, or the tooth may be only slightly wedged behind the largest diameter of the crown anterior to it. When it is entirely beneath the gum, the roots of the second molar are often absorbed and pressure on the pulp causes pain. Even before this the pressure from crowding may cause severe neuralgia or grave reflex disturbances, resulting, as has been seen, even in dementia præcox and psychosis. If the third molar breaks through the mucous membrane during eruption, being still covered by the gum tissue, infection is prone to occur, with fever, swelling and abscess formation, which may discharge either in the mouth or on the neck and become chronic. If the pus be not retained the condition may be entirely local and the suppurating condition may exist indefinitely, being a continual source of toxemia.

Neuralgia, the ordinary facial type or tic douloureux, is at times caused by pathologic conditions of the teeth. Focal calcification of the pulps, at times, gives rise to neuralgic pains.

While the etiology of carcinoma is still in the dark, it is certain that carcinomata do develop on the tongue and mucous membrane of the mouth at the site of abrasions and traumatisms due to sharp teeth or roots.

Tuberculosis can be implanted on an abraded mucous membrane; hence it is imperative that the mucous membrane of the mouth and lips be kept intact. The dentist should be able to cope with any pathologic condition in the mouth, thereby attacking disease many times in its inception, when it is often easy of eradication.

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THE TEETH AND ALVEOLAR PROCESSES AS POINTS OF ENTRANCE FOR THE TUBERCLE BACILLUS*

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Tuberculosis is probably the most discussed problem in medical science to-day. The internist, surgeon, gynecologist, ophthalmologist, dermatologist, laryngologist, orthopedist and dentist—all have a common interest in the problem. The tubercle bacillus is a free lance, defying and challenging all tissues. It invades the territory of every medical specialist without apology. No one can gainsay the statement that it is ubiquitous. It is looked on by the layman as man's greatest physical foe. More money, thought and skill have been contributed to conquer it than any other enemy of the physical man. All this is sufficient reason for discussing the question, even in a very limited way, and yet, the mouth is probably the most serious factor in the matter of infection from this organism.

The tonsil as a gateway of invasion is fully appreciated. It has been carefully studied and discussed. Medical literature in the past five years bears eloquent testimony to the splendid work which both the specialist and internists have done in the premises. Dmochowski found tubercle bacilli in lymph-vessels of tuberculous tonsils which led to involvement of the cervical glands. Hanan, Schlenker and Krueckmann demonstrated similar results by exact pathologic-anatomic demonstrations.

While many statements have been made concerning the mouth in its relation to the tubercle bacillus, not much has been done in the way of scientific study. This statement is a more or less severe indictment on the mouth specialists. Although mechanical dentistry has made splendid progress and has contributed in splendid fashion to the weal of society, nevertheless the most serious question which the mouth specialist faces is that of disease, its recognition and treatment. Diseased conditions of the mouth must always be studied and interpreted in their relation to the whole organism. This indicates very clearly the nature of the training needed by the one who is to occupy the field of stomatology.

In a rather comprehensive study Odenthal[1] found that 70 per cent. of all children were affected with enlarged lymphatic glands. It is a well-known fact that the lymph-glands in children are more easily irritated and involved than in adults. This is particularly true of tuberculosis of the cervical lymph-glands. The reason is obvious—the root canals render the invasion of the tubercule bacillus more likely and easy in children than in adults.

A simple statement here, concerning the cervical lymphatic glands, will be of interest and service. The body of the mouth, the submaxillary and sublingual glands and gums are drained by the vasa efferentia of the submaxillary lymph-glands. There are about a dozen of these, of various sizes, found on the inner surface of the mandible beneath the platysma. A number of small glands may be found on the lower margin and external surface of the mandible. Their vasa efferentia accompany the anterior facial vein. The relation of the roots of the teeth and alveolar process to these lymph-channels is an important consideration and concerns not only this phase but the entire field of medicine. "The superficial cervical glands are placed in the course of the external jugular vein, between the platysma and deep cervical fascia. They are most numerous at the root of the neck, in the triangular interval between the clavicle, the sternomastoid and trapezius, where they are continuous with the axillary glands. A few small glands are also found on the front and sides of the larynx. The deep cervical glands are numerous and of large size, forming an uninterrupted chain along the sheath of the carotid artery and internal jugular vein, lying by the side of the pharynx, esophagus and trachea, and extending from the base of the skull to the thorax, where they communicate with the lymphatic glands in that cavity" (Gray's Anatomy).

A route which is direct and brief in extent thus leads at once from the mouth through the tissues of the neck to the thorax. One is very apt to think of the mouth as brought into relation with the body by way of the esophagus and trachea. Here, however, in this lymphatic system is a nexus which, in many respects, from a pathologic standpoint is more vital than that afforded by the esophagus and trachea combined, vital as they are. It is a fact familiar even to laymen, and one which I need not discuss at length, that the tubercle bacillus, along with other pathogenic micro-organisms, enters the body freely through the esophagus and trachea. Here the invading organism is confronted, under normal conditions, by a "foeman worthy of his steel," a healthy epithelium. The same organism, gaining entrance through the lymphatics, finds a much more fertile field with a limited defense.

In 978 children (between the ages of 4 and 13) examined by Odenthal, 429 had progressive caries of the teeth. Of the 429 all except 4 had cervical lymphadenitis. In 237 of the 429 the teeth were badly broken down and the glandular enlargement was more pronounced. In 79 of the cases there were other pathologic lesions which could be assigned as responsible for the lymphadenitis. In 359 cases no cause could be assigned save carious teeth. In 131 cases caries were found on one side only, and in all of these the glandular enlargement was on the same side. Pedley examined 3,145 children and found that 77.5 per cent. had carious teeth with more or less pronounced cervical lymphadenitis. Ungaware examined 100 children and reports 87.2 per cent. with carious teeth. Felschel examined 335 orphans in Hamburg and found carious teeth in 96.4 per cent. Reese examined 13,167 children in Thuringen and Baden and found that 79 to 99 per cent. had carious teeth. The above children were between 6 and 14 years of age. Out of the 100 recruits examined by Cunningham 96 had carious teeth.

Unfortunately the authors quoted do not give data covering the percentage of glandular enlargements, clinical or microscopic diagnosis. The figures are, nevertheless, very interesting, as they indicate the great opportunity for the tubercle bacillus to gain entrance.

Of the children with enlarged cervical glands examined by Starck[2] 80 per cent. had carious teeth. After obtaining a careful history and making a thorough examination of each case he accepted 16 per cent. of the

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* Read in the Section on Stomatology of the American Medical Association, at the Sixty-first Annual Session, at St. Louis, June, 1910.

[1] Odenthal: Cariöse Zähne als Eingangspforte infectiosen Materials und Ursache chronischer Lymphdrüsenschwellungen am Halse, Inaug. Diss., Bonn, 1897.

[2] Starck, Hugo: Der Zusammenhang von einfachen chronischen und tuberkulösen Halsdrüsenschwellungen mit cariösen Zahnen, Beitr. z. klin. Chir., xvi.

80 per cent. as having a hereditary predisposition to tuberculosis. In 41 per cent. of the 80 per cent. no other cause could be assigned except carious teeth. The average age of the children examined was 8½ years. Starck made an observation which is in keeping with my own experience, namely, that the extent of the glandular involvement corresponds with the number of carious teeth, and the extent of the carious process.

Cornet demonstrated before the tenth meeting of the German Surgical Society that he could produce tuberculosis of the cervical lymph-glands by inoculating pulps of teeth through artificial cavities. In animals he got the same results by rubbing cultures of tuberculosis between the lower incisor teeth, clearly demonstrating that the bacillus may enter either by way of the pulp chamber and root canal or the alveolar process. Baumgarten fed animals on tuberculous material, and in every case produced tuberculosis of cervical lymph-glands. In all of the animals the tonsils also were affected. Morelli and Jaruntowski[3] have clearly demonstrated the presence of the tubercle bacillus in carious teeth of patients suffering from phthisis. In this connection Hoppe has tried to prove that the presence of the tubercle bacillus is as frequent in the carious teeth of healthy as of tuberculous subjects. He examined decayed material from thirty-one carious teeth and found the tubercle bacillus in twenty-three. These were from healthy subjects in which the decay had reached the pulp.

Israel has conclusively demonstrated the infection of cervical lymph-glands by actinomycosis through the teeth.

Ruehle reports the case of a boy with *Spitzenaffektion* of the left side. The cervical lymph-glands on the same side were extensively involved. The process began by the enlargement of a single gland beneath the first molar. He demonstrated that the gland was tuberculous, but it is not certain from the record whether he found the bacillus in the molar tooth, which was badly decayed, though one would infer that he did.

Starck reports the following interesting cases:

CASE 1.—A healthy girl of 7 complained of toothache on the left side of the lower jaw. The teeth were badly decayed. Soon after the toothache had ceased, two glands under the cuspid and first molar on the left side became enlarged. Both the cuspid and first molar were carious. The glands soon enlarged and the overlying integument became discolored. The glands were extirpated. Microscopic examination revealed tuberculosis.

CASE 2.—A girl, aged 9, fairly strong and healthy, gave a clinical history of toothache on left side followed by gradual enlargement of cervical glands. At the time of the examination, the glands were quite large and the overlying skin was red. There was a fistula under the jaw discharging a serous fluid. Two large, partly caseous lymph-glands were excised, showing a tuberculous process on microscopic examination. In this case the lower second premolar and first permanent molar were badly decayed on the affected side.

CASE 3.—A girl, aged 10 years, with no disease in the family, had large cervical lymph-glands on right side second molar (probably six-year molar), badly broken down. The glands were extirpated. The microscope revealed a tuberculous process.

Here we have three perfectly healthy children with tuberculous heredity excluded. The tonsils and tissues of all three mouths were healthy. The teeth were badly decayed. In two of these cases he found the tubercle bacillus in the teeth, using Ziehl-Gabett's method.

Professor Ungar of Bonn reports the case of a boy 5 years of age with a badly decayed lower cuspid tooth. The gum tissue surrounding this tooth became involved in a pathologic process which was diagnosed as tuberculosis. Later on the gum tissues on the upper jaw became involved, probably by contact infection. Professor Trendelenburg extracted the teeth and carefully removed the diseased tissue together with the alveolar process. Some time later the submaxillary lymph-glands became involved and had to be removed. Later on the deep cervical lymph-glands became involved, necessitating an extensive dissection. All glands removed were tuberculous.

Zanby[4] has collected forty cases of tuberculosis of the alveolar process, in which he claims the bacillus gained entrance either through the pulp canals or "spaces between the teeth." He pertinently suggests that wounds following the extraction of teeth may permit the bacillus to enter, particularly in patients suffering from phthisis.

A valuable contribution to the study of the subject has been made by Cook,[5] who reports the following cases:

CASE 1.—Girl, aged 13. Tubercle bacillus found in twelve-year molar. No other evidence of tuberculosis.

CASE 2.—Colored boy, aged 18. Bacillus found in debris or posterior teeth. Molars badly decayed.

CASE 3.—Girl, aged 9. Tubercle bacillus found in scrapings around roots of teeth.

CASE 4.—Girl, aged 17. Tubercle bacillus found in lower second molar. Tooth extracted. Five weeks later a small nodule appeared under jaw directly beneath extracted tooth. Later other glands became involved; no operation made.

CASE 5.—Boy, aged 11 years. Badly decayed lower left first molar. Fistula opening on lower border of jaw. Bacillus found in tooth cavity and in necrotic tissue scraped from fistula.

CASE 6.—Girl, aged 11. Swelling under left lower first molar. Tooth badly decayed. Tubercle bacillus found in pulp chamber. Later on an abscess formed and tooth was removed. Numerous bacilli found in pus.

Cook reports three other similar cases.

In my own series of ten cases I shall merely mention six of them, as they differ but little from the cases recorded above. These six cases have been studied only in part, but I hope later to complete the study and report them in detail. In four cases of my series I have succeeded in making a satisfactory study.

CASE 1.—A boy of 9 years, strong and healthy. Family history negative. Two other children in the family in good health. Thorough physical examination revealed no other lesion than the one to be cited. Three months previously the boy complained of toothache on the left lower jaw. The parents being poor people, he went to a drug store and purchased a tube of "toothache paste," which was used regularly for a month or more, when the trouble ceased. The little patient suffered from pain intermittently during the period. About a month after the pain subsided, the mother noticed a nodule under the lower jaw, for which she came to me for advice. The mouth was in good condition, the teeth free from caries, except the lower left six-year old molar which had a large occlusive cavity. The enlarged lymph-gland was immediately under the tooth. Its character and appearance led to an examination which revealed the tubercle bacillus in the cavity. The pulp at this time was dead and putrescent. The tooth was at once extracted and a so-called "abscess sac" was found on the distal root. The contents of this sac were expressed on a slide, and the tubercle bacillus again discovered. After some weeks' hesitation the parents consented to an operation. A mass of six glands varying from the size of a filbert to that of an English walnut were excised. Careful microscopic examination showed a typical tuberculous process. The patient had an uneventful recovery and four months after the operation was in perfect health, with parts normal. No evidence of recurrence.

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[3] Jaruntowski: Ueber Tuberkulose des Zahnfleisches, Zahnärztl. Wchnbl., viii, No. 3701.

[4] Zanby: Von Bergmann's Surgery, i, 677.

[5] Cook, G. W.: Bacterial Investigation of 220 Mouths with Special Reference to Tuberculosis, Dental Rev., 1899, xiii, 97.

CASE 2.—Girl, aged 10. This case gives a clinical history almost identical with Case 1. The findings were the same except on the opposite side of the mouth. Family history negative. Physical diagnosis negative, barring enlarged cervical lymph-glands on right side. The child had toothache located in the lower right first molar for several weeks, which finally disappeared. This was followed by an enlargement of the glands on the same side. After several examinations we finally discovered the tubercle bacillus in the decayed molar. The tooth was extracted, and a week later the enlarged lymph-glands were dissected out. One of the glands was distinctly caseous, and a diagnosis of tuberculosis, made from the gross specimen, was confirmed by the microscope.

CASE 3.—Boy, aged 8. This case was referred to me by Dr. Maser, who had extracted the lower left first molar a few days previous, following a history of toothache. The little patient had a mass under the lower border of the mandible on the left side which was rather diffuse in character. A mass of granulated tissue filled the socket occupied by the mesial root of the extracted tooth. This was curetted and the tubercle bacillus found in the scrapings. At the bottom of the socket there was a sinus which led directly into the mass under the jaw. When the integument was incised at the time of the operation, a large broken-down lymph-gland was exposed, which was accidentally ruptured by process of dissection. Beneath this were four or five smaller glands. In this, as in the other cases, there seemed to be a distinct limitation to the process, the glands involved being walled off.

CASE 4.—Married woman, aged 32. Family history and physical findings negative. Extensive enlargement of cervical lymph-glands on left side. General condition of mouth poor. Salivary deposits on teeth marked. Gums congested and sensitive. Piece of bridgework on left lower jaw, extending from first bicuspid to second molar. Roots of these teeth very loose with pus in their sockets. Apex could be reached on almost every surface with a fine probe. The bridge was removed altogether with the roots which served as abutments. The sockets were carefully curetted and examined microscopically. The tubercle bacillus was found on two different slides. The patient refused to have the glands excised, but consented to have us remove one under a local anesthetic for purpose of diagnosis. The microscope confirmed our clinical diagnosis of tuberculous lymph-glands.

In studying the tubercle bacillus one has constantly to bear in mind the ease with which mistakes may be made; the difficulties encountered, first, in finding the organism, and second, in staining it successfully; and also the smegma and lepra bacilli, Moeller's grass bacillus, the Petri-Rabinowitsch butter bacillus and their staining characteristics. Metchnikoff, Maffucci and Lubarsch have pointed out the aberrant forms, the recognition of which constitutes still another difficulty. Starck saw some bacilli, shorter and thicker, which were contained in a peculiar white cell. In these he noticed a point at one pole which took the stain poorly. He regarded these as endogenous spores. Despite all the difficulties, however, there is an abundance of clinical material for study and observation. While the amount of work done in the premises is limited, the case has been won, and proof is at hand that the tubercle bacillus does gain entrance to the body through diseased teeth and alveolar processes, and that the cervical lymphatics are directly infected by this route. The full significance of all this will be revealed by further study. Suffice it to state in passing that when the facts are all understood an exceedingly important contribution to modern medical science will have been made.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. POTTS AND MOOREHEAD

DR. JAMES E. POWER, Providence, R. I.: In regard to the finding of tuberculous glands, there is no question in my mind that hygienic conditions are influenced by the mouth condition, but Dr. Moorehead failed to state the physical condition of these patients. There is no question about tuberculosis being all that we believe it to be. On the other hand, we must not forget that there are many people affected with tuberculosis, which is only discovered after death. The record of autopsies show that the majority of cases have evidence of healed tuberculous processes in their lungs.

DR. M. H. FLETCHER, Cincinnati: Dr. Potts mentioned tic douloureux as one of the results or as a symptom. Our surgeons assume that tic douloureux is central—in the Gasserian ganglion or brain; but, ten years ago, in order to bring attention to the subject and to put before the association cases which I had observed, I assumed that it was peripheral. Since then I have had a number of cases which have strengthened this hypothesis.

It is a well-known fact that diseases of the periosteum about the face or teeth, or in the accessory cavities and air-passages, produce these continuous pains. I have had a number of cases sent to me with these symptoms. These patients were examined by some of our best men, and before being operated on were sent to me for my diagnosis. I found one case in which the pain was in the zygoma and under the right eye, and was due to an exposed pulp in the first molar below. Paroxysms of pain were drawing up the face—pain coming on suddenly and lasting for an hour or two. Sometimes it would be shorter. Before I found the trouble I had removed the second molar on the right above. After it and the pulp in the lower free molar were removed, the pain disappeared completely. The patient went home and came back in a few days suffering just as much as ever. I found that the gutta-percha filling which I had inserted for temporary purposes was pressing on the gum between the teeth and forcing it down against the bone. On relieving the pressure the pain disappeared. I have given a good deal of attention to these conditions and the possibility of their being tuberculous, and that necrotic alveolitis where there are deep-seated pockets in cancellous bone and no pus is sometimes accompanied by acute pains approaching tic douloureux. I believe that the bones of the face, like the spine or other bones, are frequently infected by tubercle bacilli.

DR. EUGENE S. TALBOT, Chicago: More than twenty years ago I commenced the use of iodin for interstitial gingivitis, and in the treatment of that disease found the mouth cleared up beautifully, but it was not until later I understood why I was getting such results. I know now that if we would take those patients that come to us for the first time, even for the extraction of teeth in children's mouths, if the mouths were painted with iodin for a few minutes—fifteen minutes or half an hour before—the germs in the mouth would be destroyed. The difficulty with the official preparation of iodin is that when it is mixed with alcohol it irritates the mucous membrane, which, after one or two applications, will peel off. To overcome this tendency I have compounded a preparation without the alcohol. It is necessary to use only a 10 to 15 per cent. solution. I usually in my regular practice make application when I get through the operation for the day. Every patient that comes to me gets a dose of that before he leaves the office. In cases of sepsis, the tissue between the teeth and around the gums should be thoroughly saturated. If I were to perform operations on the throat, I should paint the tonsils with a preparation composed of zinc iodid, 15 parts, water 10 parts, iodin 25 parts and glycerin 50 parts. This preparation, which I have named iodoglycerole, is coming generally into use, for the reason that it penetrates the deeper tissues and destroys the germs embedded there.

I am confident that if the mouths of all school children were treated with iodoglycerole it would entirely prevent mouth infection in the public schools. I would recommend school authorities to treat the mouths of the children once a week, especially when there are epidemics.

Dr. V. P. Blair, St. Louis: Of course, we know that the tubercle does not arise in the gland, and that it does come from the points that the glands guard. There is no doubt that the tonsil is the greatest source of infection. It has been worked out in certain clinics in Chicago and Rochester, and they tell me in Rochester that 8 per cent. of the tonsils removed are tuberculous. In a certain number of cases of tuberculous glands of the neck, the tonsil does not look as if it were probably the site of infection. Of course it may be; we cannot always tell from mere inspection. Tuberculous ear infection is rather rare. A few of these cases come from the nasal tonsil. But I believe from clinical observation that a certain percentage of cases of tuberculous glands of the neck come either through a tooth or around it. This being the case, it is important for the surgeon who is operating on a tuberculous gland of the neck to have the teeth attended to. It is my custom to use an antiseptic wash every two hours. It seems to me rather doubtful, unless it were put in with the greatest care, whether a single application of iodin would reach all the spaces between and around the necks of the teeth; but if it could be made to reach every part, it would certainly be a good thing. It is not an uncommon thing to see enlarged glands in the neck, which are probably not tuberculous, subside on a nose and throat wash, which seems to indicate that washing does some good.

Dr. T. W. Brophy, Chicago: The late Dr. Senn thought iodin the most potent of all germicides. His favorite preparation was 1 per cent. iodin crystals and 1 per cent. potassium iodid with 98 per cent. of water. This he used freely, flushing the abdominal cavity, especially in cases of infection. He declared that many of his patients who recovered with the use of this treatment would have been lost without it.

Dr. Stewart L. McCurdy, Pittsburg: I read a paper a few years ago in relation to the use of iodin in cases of bone infection in which I reported a hundred or more cases. I have used iodin in all cases of osteomyelitis. Three weeks ago I chiseled open a tibia having central disease, and found that the cancellous structure of the medullary canal was entirely dissolved away, and that the bone was perfectly white inside, showing that the disease had existed for a long time. After opening the canal I used a syringe with a nozzle about three inches long and injected tincture of iodin in both directions, closed the cavity, and the patient walked out of the hospital in two weeks without any of the old pain. I could report probably fifty cases of this type. We inject everything which has pus in it with iodin. A case of a child with a tuberculous foot in which I removed the cuboid and cuneiform bones, it was immersed in a 10 per cent. solution of iodin for two hours every day for three weeks. I have been doing this in all such cases. If desired, compound solution of iodin may be used in place of the commercial tincture of iodin.

Dr. H. A. Potts, Chicago: I think that tic douloureux undoubtedly may be of dental origin, and therefore peripheral, as Dr. Fletcher said. Following hemorrhage of the brain, we at times find symptoms which are identical with tic douloureux which are central, and all operations, either ganglionic or peripheral, have no effect on it. I have known of cases undoubtedly of peripheral origin. Then, too, I think a close diagnosis should be made between tic and ordinary neuralgic pains which are peripheral. The cases which are epileptiform and extend over a number of years are known as tic douloureux. I should also be interested to know if his patient is cured two months from now: because many of these cases of tic douloureux fall into unfortunate hands and have one tooth extracted after another, get temporary but not permanent relief.

It seems to me that tuberculosis of the bones of the face as a primary disease is exceedingly rare. I doubt also whether it follows an implantation or an extension from glandular tuberculosis. I think that the only tuberculosis of the bones of the face which may be considered primary is that which we most frequently see of the zygoma. This may be explained by the rich blood-supply; it does not have a chance to become infected; the opposite condition explains the presence of tuberculosis in the epiphysis of the long bones or digits or small bones of the hands.

Dr. F. B. Moorehead, Chicago: In answer to Dr. Powers, I reported the physical examination of all the cases and excluded every possibility of tuberculous infection from every other source in the body. I do not believe that tuberculosis was present in any of the cases Dr. Fletcher has cited. Tuberculosis of the bones of the mouth and face is exceedingly rare, except through extension from lupus vulgaris. The blood and lymph supply of the parts is so great that the tubercle bacillus will find lodgment elsewhere, particularly in the cervical lymphatic glands.

If I have any hobby it is diagnosis. By that I mean the analysis of every element entering into the pathologic process. It is a thing which a man must train himself to do in every case which he meets. It is the crux of every problem. If a man will train himself to that sort of thing he becomes more expert as a diagnostician and clinician.

GONORRHEAL ARTHRITIS OF WRIST AND KNEE

IN A CHILD THREE WEEKS OLD

G. FRANK LYDSTON, M.D.
Professor of Genito-Urinary Surgery in the Medical Department of the University of Illinois
CHICAGO

The following case is reported because of its rarity. It is especially rare because of the relation of the arthritis to gonorrheal conjunctivitis.

History.—Baby X., aged 3 weeks, was seen in consultation with Dr. Benjamin N. Novy. Through ignorance of the mother's condition the infant's eyes had been permitted to become infected at birth. Subsequent investigation showed that the mother had gonorrhea. Within forty-eight hours after birth the child developed gonorrheal conjunctivitis, which proved to be of moderate severity and was under control at the time of my examination. On the fourteenth day the left wrist became greatly swollen, painful and slightly reddened. Three days later the right knee became involved in extensive swelling of a character similar to that of the swelling of the wrist. The immunity of infants from ordinary rheumatic arthritis, taken in connection with the typical physical characteristics of the involved joints, and the moderate temperature—ranging from 100 to 101 F.—and the clear history of gonorrheal infection established the diagnosis.

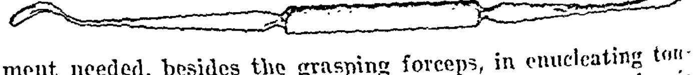
Treatment.—Antigonococcal serum was administered hypodermatically, beginning with three minims every other day and gradually increasing until fifteen minims were given. The reaction was slight and improvement prompt. At present, about four weeks since beginning the serum treatment, the joints are almost normal. There is some impairment of motion of the knee, for which I have recommended passive motion. Ankylosis, I think, will not result. The wrist requires no further attention. The local treatment consisted in constant application of the following anodyne ointment:

℞	gm. or c.c.		
Ol. gaultheriæ	8		ʒii
Ext. aconite rad			
Ext. *belladonnæ* rad .... āā	3	or	gr. v
Mentholis	6		gr. x
Adipis lanæ hydrosi .... qs ad.	30		℥i

Sig.—Apply on sheet lint and surround by cotton and oiled silk.

100 State Street.

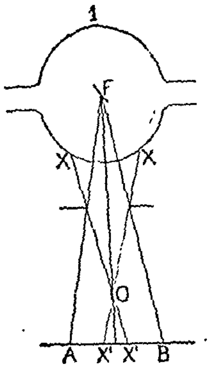
New Tonsil-Knife and Dissector.—The accompanying illustration shows a new tonsil-knife and dissector, devised by Dr. E. R. Carpenter, El Paso, Tex., which has been found satisfactory by a number who have used it. It is the only instrument needed, besides the grasping forceps, in enucleating tonsils, he says. With it, adhesions are freed, and an opening is made behind the capsule with ease. In the illustration the left end has a sharp edge and the right is semi-sharp.

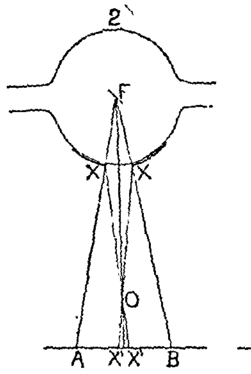


A FLEXIBLE CONTACT DIAPHRAGM AND PROTECTIVE SHIELD FOR X-RAY TUBES

SINCLAIR TOUSEY, AM., M.D.
NEW YORK

A diaphragm or an opaque barrier of some kind with an opening of appropriate size is useful in *x*-ray treatment by limiting the application to the desired region, while protecting other parts of the patient and also the operator from the influence of the rays. Its value in radiography depends not only on the above factors, but also on its exclusion of vagabond rays arising from various parts of the *x*-ray tube and blurring the clean-cut shadows which would be produced by the direct rays emanating from the focus point on the anticathode. An example of blurring, due to light radiating from a large area instead of from a single point, is seen if the fingers are held against a piece of paper a few feet from a window. The shadow seen on the further side of the paper has a much blurred margin. The shadow of a coin held against the paper is much more sharply cut, although the finger is just as opaque to ordinary light.





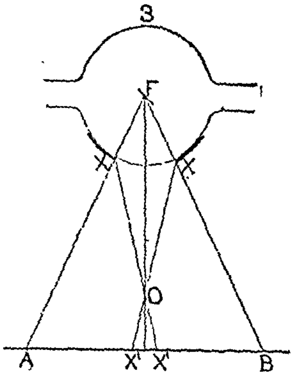


Fig. 1.—*X*-ray tube with 2-inch diaphragm, 6 inches from anticathode. *A-B*, 6-inch field at 18 inches. *X-X*, area of tube from which vagabond rays pass through an object at *O*. *X'-X'*, amount of blurring of the image of *O*.

Fig. 2.—Contact diaphragm with 1-inch orifice in contact with the wall of the tube. *A-B*, same area of illumination; but *X-X*, smaller area for origin of vagabond rays and *X' X'*, reduced blurring of image of object *O*.

Fig. 3.—Contact diaphragm with larger orifice giving no larger area for origin of vagabond rays *X-X*, and no greater blurring, *X'-X'* than in Figure 1, but an increased field of illumination.

There are factors operative in determining the definition in a radiograph, namely, the area from which rays originate and the distance of different parts of the patient from the surface of the photographic plate. With the plate directly in contact, the distance from different portions depends on the thickness. A good antero-posterior radiograph of pneumatic sinuses through the entire thickness of the head is an impossibility without a diaphragm.

The smaller the orifice of the diaphragm, of course, the clearer becomes the image, but the area embraced in the picture becomes correspondingly smaller.

My contact diaphragm[1] is designed to secure the best possible definition with a wide field by having the orifice in contact with the wall of the *x*-ray tube. An orifice 2 inches in diameter, at a distance of 3 inches from the wall of the tube and say 6 inches from the focus point on the anticathode, will permit of making a radiograph only 6 inches in diameter on a plate 18 inches from the anticathode.

It greatly reduces the amount of blurring as compared with that produced without a diaphragm, but still permits of some blurring as shown in Figure 1. A diaphragm, in contact with the wall of the tube and with an orifice only 1 inch in diameter will give the same 6-inch radiograph at a distance of 18 inches with much less blurring, because rays from a much smaller part of the *x*-ray tube can pass through a given part of the object and produce a shadow, as in Figure 2. A contact diaphragm of this size is correct for the radiography of the pneumatic sinuses of the face.

Sufficient definition for studying the condition of the spine or the lungs or the entire urinary tract in the search for calculi, may be obtained with a contact diaphragm whose orifice is 2½ inches in diameter. Figure 3, drawn to the same scale as the others, shows that this greater field is secured with less blurring than the smaller field with the 2-inch diaphragm 3 inches from the wall of the tube. This fact has been actually demonstrated in my own practice.

The flexible contact diaphragm (Fig. 4), is of flexible rubber composition containing a lead compound which is opaque to the *x*-ray but which is not a conductor of electricity. It is flexible enough to be changed from one tube to another but fits so closely that there is no danger of its shifting during use. It covers about ⅞ of the bulb, the uncovered part being at the back and affording sufficient surface to prevent overheating. In actual use I have found that it gives the desired increase in definition without any drawbacks, such as inverse discharge or rapid hardening of the tube. Its orifice is directly in contact with the glass and can be made

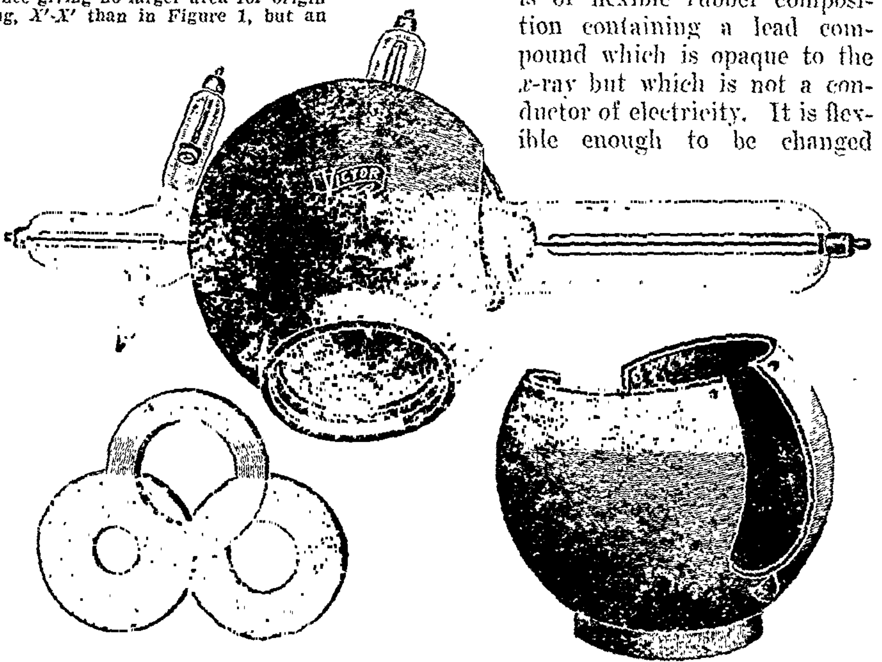


Fig. 4.—Flexible contact diaphragm forming protective shield, with orifices of different sizes.

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[1] Tousey: Medical Electricity and the Roentgen Ray, W. B. Saunders Company.

smaller by inserting three different rings of an opaque rigid material. For occasional use in radiography or in Roentgenotherapy, it affords all necessary protection, but for constant use, I place the tube and contact diaphragm inside the opaque box known as Ripperger's shield,[1] and use lead-glass spectacles and opaque apron, gloves and cap. A simple expedient would consist in remaining outside the room while the *x*-ray was in operation.

140 West Fifty-seventh Street.

LIVER ABSCESS

A REPORT OF TWO CASES OF ABSCESS OF THE LEFT LOBE

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The tropical or amœbic abscess of the liver concomitant with or a sequel of dysentery presents enough diagnostic difficulties to make any discussion of it acceptable to those who are initiated. In this brief paper no attempt is made to discuss this great subject in general, but these few suggestive ideas occurred to me in the study of this disease.

The clinical picture of liver abscess given in text-books seems clear and plain enough, but the text-book descriptions are often really of little help to the surgeon in his work, because they appear to be largely based on far advanced cases in which the pathologic process has extended to involvement of neighboring structures and the abscess has reached such great proportions that the patient is in a desperate situation. It is remarkable also, that many text-book descriptions indicate that the authors in their discussion of differential diagnosis have in mind abscess situated in the right lobe of the liver, excluding the possibility of its occurrence elsewhere in the organ.

Roux gives the relative incidence of abscess in the several lobes of the liver, based on 639 cases, as follows: right lobe 70.85 per cent., left lobe 3 per cent., the remaining percentage includes abscess in all other lobes and those that are multiple. It can be seen therefore that although the preponderant number of abscesses do occur in the right hepatic lobe, yet the location of the disease is variable enough to make the average text-book description, fitted to abscess in right lobe, not sufficiently comprehensive, and indeed inadequate.

During the past year I have operated in two cases of abscess located in the left lobe of the liver and the purpose in briefly reporting them is to reiterate what is commonly known, that of all the grave tropical disorders, liver abscess is the most insidious and circumventive.

These cases have several common points in their history. Both patients are soldiers who contracted mild dysentery in the Philippine Islands about 7 years ago, which was followed by abscess of the right lobe of the liver. Both were successfully operated on at the time, followed by recovery and return to the full duties of a soldier. Both have served a two-year tour in the tropics since that time, and are now serving in the third year since last return. Both men are harboring *Amœba dysenteriæ* but have had no dysenteric symptoms since the liver abscess trouble seven years ago. Their health has been good from that time until the illness reported herewith.

Case 1.—*Artificer K.*, reported sick and was admitted to Post Hospital, Fort Ontario, N. Y., April 12, 1909. He said he had been feeling "a little off" for several days and that he had lost some weight but did not know how much. He said he had a night-sweat several days previous to admission but no chill.

Symptoms.—The patient complained of mild digestive disturbance, loss of appetite and some weakness; had no pain of any kind but had general discomfort over abdomen which he attributed to indigestion.

Physical Examination.—The abdomen was slightly distended with gas, which was promptly relieved by enema; tongue coated but not foul; patient appears to be not very sick. There was a point of slight tenderness on deep pressure at the epigastrium slightly to the left of the median line. Liver dulness was not increased on either side and the liver was not palpable. Heart, lungs and kidneys were normal, stools were positive for *Amœbæ dysenteriæ* but there was no diarrhea. Temperature ranged between normal and 99.4 F. in an irregular curve. He had moderate night sweats between April 12, the date of admission, and April 17. The point of tenderness in the epigastrium during this time extended more to the left and became general along the left costal margin. On April 16 he had pain for the first time which he could not definitely locate, but stated that it occurred only after each bolus of food had been swallowed, and lasted but a few seconds.

Diagnosis.—The diagnosis of abscess of the left lobe of the liver was based on the history of previous abscess and ameba in the stools, the night sweats, moderate irregular fever, pain after swallowing and slight tenderness over left costal border.

Operation.—April 17, 1909, under ether anesthesia a left infracostal incision was made, revealing an abscess the size of hen's egg near the upper surface of the left lobe, which was evacuated and drained. Uneventful convalescence ensued and the patient returned to full soldier's duty June 25, 1909.

Case 2.—Sergeant M. reported sick and was admitted to Post Hospital, Fort Ontario, N. Y., March 17, 1910. Patient stated that he had a chill the night before admission and pain in chest so that he thought he was going to have pneumonia. He said he was feeling well until the night before admission but that he was not quite so strong and robust as he had been several months before.

Symptoms.—Patient had distaste for food but no nausea, general soreness over chest and an annoying cough. There were no abdominal symptoms.

Physical Examination.—Auscultation revealed mild bronchitis; no tenderness in abdomen anywhere. His temperature rose to 102 F. the first day in hospital and the same night he had a drenching sweat which required the changing of the bed linen. These sweats continued nightly, occurring about 3 a. m.; also an irregular fever ranging between 99 F. and 102 F. The bronchial irritation cleared up in a few days, pain ceased and cough disappeared. Pain or tenderness suggestive of any abdominal trouble did not appear until March 25, eight days after admission, when tenderness was elicited over lower ribs of left side in an area as large as a man's palm. This tenderness increased from day to day and increased in area until it became general along left costal margin and in epigastrium. Finally pain appeared which was only present on deep inspiration, but this increased so that the respiratory excursion was quite limited. Heart, lungs and kidneys were normal. The line of liver dullness over left lobe extended towards splenic area and left lobe was palpable below costal margin. Palpation of the liver gave little discomfort.

Diagnosis.—As in the previous case it was based on history of dysentery and former liver abscess, pain on deep inspiration, local tenderness, fever and night sweats.

Operation.—March 28, 1910, under ether anesthesia a left infracostal incision was made, revealing the left lobe adherent to the diaphragm which separated with difficulty. An abscess in the left lobe opened, hourglass in shape, which discharged 100 c.c. pus. Drainage was employed and recovery was uneventful. Patient returned to soldier's duty May 5, 1910.

The distribution of the portal circulation to the various hepatic lobes explains in a measure why abscesses occur most frequently in the right lobe. The portal branch passing to the right lobe is the largest and is the most direct and swiftest route for amœbæ, bacteria or infective emboli to enter the liver substance.

It will be noticed in the two cases cited that each had had abscess in the right lobe previously, and at operation I found that in both cases there was reduction in size of the right lobe with adhesions to the diaphragm and neighboring structures and that there appeared to be wide-spread fibrous infiltration throughout the right lobe, indicating that the abscesses had been quite large and destructive to the liver substance. This fibrous shrinking of the right lobe would operate to reduce the volume of the portal circulation to that portion of the liver. Also, compensatory hypertrophy of the left lobe would make its portal circulation swifter and more direct for the entrance of infective material.

On the other hand, it would appear that abscesses occurring subsequent to those in the right lobe would have selected again the damaged right lobe as a point of least resistance.

The interesting points in these cases are:

1. Both men had liver abscess in right lobe previously.
2. Both were in excellent health in spite of their being the hosts of *Amœbæ dysenteriæ*.
3. Rapid onset of the disease.
4. Mild symptomatology, which was less defined than the descriptions indicate.
5. Absence of many of the "classical" signs of liver abscess as given in text-books.
6. Difficulties in early diagnosis which would have been encountered in absence of history of dysentery and previous abscess.
7. Rapid convalescence and return to normal health in spite of amebism.

THE VALUE OF EHRLICH'S TRIACID STAIN IN BLOOD WORK

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Within recent years the development of numerous modifications of the Romanowsky stain, by which blood smears may be fixed and stained in a few minutes, has limited the use of Ehrlich's triacid stain in many laboratories. The former, it is true, are far preferable in the study of pathologic changes in the erythrocytes, as cell nuclei, nuclear particles, polychromatophilia, basophilic granules, and Cabot's ring bodies, as well as certain parasites, are demonstrated to better advantage than with any other single stain. With Ehrlich's triacid, ring bodies and basophilic granules are not revealed, and polychromatophilia is shown very imperfectly. In studying the leukocytes, however, the Romanowsky stains are not to be compared with Ehrlich's triacid, and it seems unfortunate that they are so widely used at the present time in differential leukocyte counting.

CLASSIFICATION OF LEUKOCYTES

The generally accepted classification of the leukocytes is that suggested by Ehrlich, based on the staining reactions of these cells to his triacid staining mixture. By means of it the normal and, what is more important, the pathologic leukocytes are clearly separated into definite groups or classes, and this is particularly well illustrated in the staining of the myelocytes. In the majority of instances it is impossible to obtain a satisfactory stain of them with the Romanowsky stain. It happens either that the granules do not take the stain at all or, more frequently, that they are not specifically stained. In fact, it is characteristic of young granular cells (myelocytes) with a Romanowsky stain that the granules take a purplish color (i. e., basophilic), whether they are in reality neutrophilic, eosinophilic or basophilic myelocytes. It is only necessary to stain such a blood with the triacid stain to verify this statement. The differentiation at once becomes evident, the myelocytes (and polymorphonuclears as well) appear more numerous, and the "unclassified cells" are less conspicuous. Furthermore, in a specimen stained with a Romanowsky stain it is at times extremely difficult, if not impossible, to distinguish between some of the large mononuclear cells containing azure granules on the one hand and myelocytes on the other. With the triacid stain this problem, of course, does not exist. While it is usually possible for one experienced in blood work to interpret, with a certain degree of accuracy, a specimen stained by the Romanowsky method in terms of the triacid stain (in other words, to make a fairly satisfactory guess as to the classification of pathologic cells), still it holds good that for the average worker who does not specialize in hematology, and for the medical student this is an almost impossible task. Nor is there any apparent way of avoiding this pitfall so long as the present classification of leukocytes is used, except by a return to the use of the triacid stain.

FIXATION OF FILM

One of the chief difficulties in applying the triacid stain, indeed, the chief difficulty, is the fixation of the blood film, which must be done by heat. Two methods of heat fixation are commonly employed, (1) the quick method, by the use of the copper bar, and (2) the slow method, by means of a hot-air oven. The latter is the one used in teaching laboratories, where it is necessary to fix a hundred or more blood films for class work; the films are heated at a temperature of about 110 C. for one to two or more hours. In order to determine the optimum fixation four or five films are placed in the oven, one being removed at the end of an hour or an hour and a quarter, and then one at an interval of fifteen minutes thereafter. The specimens are stained and examined and the proper fixation time noted. The remaining specimens are then fixed the required length of time, and may be stained at once or at any time within the next few months. This method is, of course, out of the question for the practitioner, as it consumes altogether too much time, when a single specimen is all that is required. For him the copper bar method is far preferable. The bar, resting on a tripod, is placed so that its tip is in a Bunsen flame; a constant temperature is soon acquired. Water is now dropped on the bar and the point noted at which the drop remains spheroidal. The blood film, with the specimen side up, is placed just inside the "spheroidal point" (i. e., toward the flame) and allowed to remain from five to one hundred and twenty seconds, ordinarily about thirty to forty-five seconds. It takes only a moment to fix several films for various periods of time. All may be stained at once, and the best specimen selected for study. In a properly fixed specimen the erythrocytes have a buff color; overfixation causes them to be stained yellow, while in an underfixed film they are red. The final criterion by which a specimen should be judged is, however, a clear-cut differentiation of the leukocytic granul

STAINING TECHNIC

The staining technic is very simple. The specimen is covered with the stain for from five to ten minutes (overstaining is impossible), washed, blotted dry, and mounted. With a little experience a satisfactory preparation should usually be obtained in fifteen minutes at the most, often in half this time. When the method has been mastered the time-consuming qualities of the triacid stain are not much greater than are those of the Romanowsky stains—certainly not enough to warrant the apparent disuse into which the stain has fallen.

PREPARATION OF THE STAIN

When it is necessary to prepare one's own staining mixture, another drawback to the triacid stain of Ehrlich may be encountered. (Fortunately very satisfactory preparations of the stain are on the market, notably Grübler's.) The formula given in text-books frequently fails utterly and it becomes necessary often to waste numerous batches of stain before a suitable mixture is obtained. As is well known, the staining ingredients of Ehrlich's triacid are a basic stain, methyl green, and two acid stains, orange G. and acid fuchsin. The three basic radicles of the methyl green are neutralized by the acid stains, hence the name triacid, which Ehrlich selected. Determining the proper quantity of each stain in the mixture is the usual source of trouble in its preparation. While experiencing this difficulty, a slight modification of the original formula was found, which has proved very helpful. The formula as modified is:

	c.c.
Saturated aqueous solution of orange G	13.0
Saturated aqueous solution of acid fuchsin	7.0
Distilled water	15.0
Absolute alcohol	15.0
Saturated aqueous solution of methyl green	17.5
Absolute alcohol	10.0
Glycerin	10.0

The fluids are measured in the same graduated cylinder, which should not be rinsed. The receiving flask should be shaken vigorously after the addition of each constituent, which is added in the order given in the formula. It is essential to add the methyl green, second portion of alcohol, and glycerin slowly, shaking well after each portion is added. The mixture is ready for use immediately and does not deteriorate with age.[1] During the last three years I have had frequent occasion to prepare large quantities of the triacid stain for class and ward work, and the mixture, made according to the formula given above, has been uniformly satisfactory, not a single failure having been recorded.

SUMMARY

In summary it may be said that the difficulties in the use of the triacid stain of Ehrlich are largely magnified as a rule. Fixation by means of the copper bar may be completed in a few seconds; by the formula given above the preparation of the staining mixture is apparently certain and simple. Its advantages are so great in the differentiation of the leukocytes that it should be employed as a matter of routine in making differential counts. For the study of pathologic erythrocytes, blood platelets, and certain parasites, on the other hand, resort should be had to one of the modifications of the Romanowsky stain.

311 Cathedral Street.

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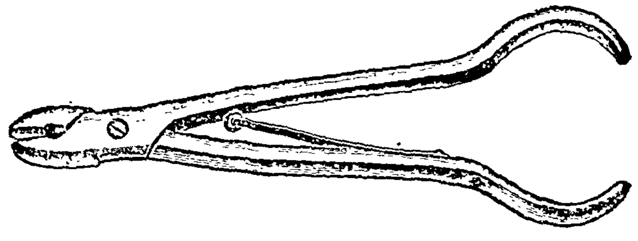
[1] A bottle of the triacid stain which has been in the Clinical Laboratory of the Johns Hopkins Hospital for about ten years still gives perfect results. In preparing the mixture it is convenient to keep a large quantity of saturated aqueous solution of each of the three stains on hand, replenishing immediately after using; the powdered stain should be present in excess and allowed to settle to the bottom of the bottle. After the mixture is prepared, a small amount of precipitate will form. Care should be taken that this is not disturbed when using the stain; otherwise the blood film may appear dirty or unevenly stained.

AN IMPROVED RONGEUR FOR MASTOID OPERATIONS

W. SOHIER BRYANT, A.M., M.D.
NEW YORK

This large powerful rongeur saves a great deal of time in the mastoid operation, since it will morsel hard bone very rapidly. The tip of the mastoid process and the outer table of the mastoid are quickly bitten off. When it is necessary to remove a part of the calvarium entire, this instrument will morsel it with great rapidity and with very little jar. The leverage of the instrument permits the exertion of a tremendous force. The rongeur is strong enough to take out the bone rapidly with a minimum of muscular exertion.



41 East Thirty-third Street.

THE UVULA AND ITS SINS

ADRIAN F. BURKARD, M.D.
OMAHA

The uvula is so inconspicuous and innocent looking that its importance as a trouble maker is too often overlooked.

Case 1.—One night about 11:30 o'clock a man, aged 50, came into my office complaining that a large piece of hot potato, which he had tried to swallow without sufficient mastication at supper time, had lodged in his throat. An examination revealed no potato, but did reveal an elongated uvula, which hung down on his epiglottis, causing, I judged, the disagreeable sensation. One snip of a tonsillotome removed the uvula, and with it the hot potato sensation, immediately and forever.

Case 2.—Another patient, a clergyman, aged 40, came, complaining that he would have intermittent dyspnea, which sometimes got so bad that he feared he would die any moment. These severe attacks came and went rather suddenly. He would have them sometimes in the middle of a sermon, to his great embarrassment. Amputation of the uvula cured him immediately and permanently.

Case 3.—A third patient had what his friends termed a "graveyard cough." He would have attacks of violent, barking cough—had had them for thirty years. Uvulectomy entirely relieved him.

Self-Defense Against Disease.—Stengel (*Proc. Path. Soc.*, Philadelphia, February, 1910) points out that the variations observed in the severity of the symptoms of typhoid fever and other infectious diseases may be due to some temporary pathologic or even physiologic cause rather than to varying grades of virulence of the infection. The tendency is to attribute undue severity to undue virulence or dosage of the infectious cause. A young man suffering from typhoid developed pronounced symptoms, including excessive fever, marked twitchings, delirium, cyanosis, abdominal distention, etc. Two hypodermic injections of morphin changed the whole character of the case. The intensity of the symptoms was due to lack of resistance dependent on want of sleep. Similar phenomena have been noted in the case of young women with typhoid in whom the onset occurred near or at the menstrual epoch. The severe symptoms subsided when the period had passed. Stengel has reported some striking instances of this.

New and Nonofficial Remedies

SINCE THE PUBLICATION OF THE BOOK "NEW AND NONOFFICIAL REMEDIES, 1910," THE FOLLOWING ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK ARE ASKED FOR.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(Continued from page 1869, Vol. LIV)

NUCLEIN, NUCLEIC ACID AND NUCLEATES

Nucleins are modified nucleoproteins obtained by peptic digestion or by treatment with dilute acids. They are split up by the action of alkalies or by tryptic digestion into a protein constituent and a nucleic acid. The exact composition of the protein and of the nucleic acid varies somewhat with the source of the nucleoprotein from which it is derived. The nucleic acids of commerce are apt to contain some protein in combination. They are most commonly made from yeast cells, but have been made, also, from the wheat embryo, the sperm of certain fishes and from the thymus and pancreas glands. In composition they approximate the formula: $C_{40}H_{52}N_{14}O_{25}P_4$. From the wheat embryo products with relatively more nitrogen have been obtained.

Nucleins are colorless, amorphous, insoluble in alcohol and ether and insoluble or slightly soluble in water. They are more or less readily dissolved by dilute alkalies. They give the biuret test and Millon's reaction. They show a great affinity for many dyes, taking them up from aqueous or alcoholic solutions. The term nuclein is sometimes used to designate an impure nucleic acid, which usage has led to confusion as the nucleic acids are bodies of definite composition.

Nucleic acids are amorphous, white, and have an acid reaction. They are readily soluble in ammoniacal or alkaline water with the formation of water-soluble salts. From these solutions they are precipitated by slight excess of hydrochloric acid but not by acetic acid (except guanylic acid). They are insoluble in alcohol and ether. When chemically pure they do not give the biuret test or Millon's reaction. They are dextrorotatory. Nucleic acids are decomposed by boiling with acids, or by the action of nuclease, yielding nuclein bases. These nuclein or purin bases are characterized by forming silver salts insoluble in ammonia.

Both nucleins and nucleic acids yield metaphosphoric acid on incineration. On fusion with potassium nitrate and sodium carbonate they yield alkali phosphates.

Actions and Uses.—Nuclein and nucleic acid and nucleates are said to increase the number of white corpuscles, and it has been claimed that this increases the resistance to infections. These results have been obtained by intravenous or hypodermic injection, and on this basis therapeutic deductions have been made; it is doubtful whether we are warranted in applying these conclusions to the administration of the remedy by the mouth.

Nuclein and nucleic acid and nucleates have been used in tuberculosis and various infections, but their true value is undetermined.

They are transformed in the organism into purin compounds and may cause the amount of uric acid in the urine to be increased.

NUCLEIN—Nucleinum.—Nuclein is a modified nucleoprotein obtained by peptic digestion or by treatment with dilute acids.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—0.5 to 1 Gm. (8 to 15 grains) three times a day.

NUCLEIC ACID—Acidum Nucleicum.—Nucleinic Acid.—Nucleic acid is an organic acid obtained from nuclein by the action of alkalies or by tryptic digestion.

It should contain phosphorus and nitrogen in the relative proportion of 4 atoms of P. to 14 or 16 atoms of N.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—0.06 to 0.3 Gm. (1 to 5 grains) three times a day.

SODIUM NUCLEATE.—Sodii Nucleas.—Sodium Nucleinate. Sodium Nucleate is the sodium salt of nucleic acid.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—Practically the same as that of Nucleic Acid.

Proprietary Preparations:

NUCLEIN, Abbott.—Sodium Tritico-Nucleinate, Abbott. A sodium nucleate derived from the wheat germ.

It is a grayish-white powder, soluble in water and insoluble in alcohol. On incineration it yields approximately 26 per cent. of ash, which is slightly alkaline and readily soluble in water. It contains phosphorus and nitrogen in the ratio of 1 atom of P. to 3.66 N. When the aqueous solution is decomposed by weak hydrochloric acid, a voluminous precipitate of the free nucleic acid is formed.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—See Nucleic Acid.

Manufactured by the Abbott Alkaloidal Co., Chicago. Not patented or trademarked.

Nuclein Solution, Abbott.—Liquor Sodii Tritico-Nucleinatis Abbott.—A solution of Nuclein-Abbott containing approximately 10 Gm. of the salt in 100 Cc. (6 grains in one fluidram) of a menstruum containing 15 per cent. of alcohol. The solution is standardized to contain 1 mg. phosphorous in 1 Cc.

The aqueous extract of the wheat germ is treated with sodium chloride and acid, the precipitate digested with pepsin, neutralized with sodium hydroxide and purified by precipitation with alcohol. The resulting sodium tritico-nucleinate is dissolved in distilled water and 15 per cent. of alcohol as a preservative.

Nuclein Tablets, Abbott.—Each tablet is said to contain 0.13 Cc. (2 minims) of Nuclein Solution. Abbott.

PITUITARY BODY, DESICCATED—Armour.—Desiccated pituitary body—Armour, consists of the dried substance of the entire pituitary body of the ox, including the infundibulum and the anterior and posterior lobes without the addition of preservative or diluent. It is said to contain all the active principles naturally existing in the gland.

A light yellowish-gray powder, practically odorless and tasteless. One part represents approximately 4 parts of fresh gland.

Actions and Uses.—See pituitary gland.

Dosage.—0.06 to 0.2 Gm. (1 to 3 grains) three times a day.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Pituitary Tablets.—Armour.—Each tablet contains desiccated pituitary body 0.06 Gm. (1 grain).

DESICCATED CORPUS LUTEUM—Armour.—Desiccated corpus luteum—Armour, consists of the fresh substance from the corpora lutea from cow's ovaries, removed, dried and powdered without the addition of preservative or diluent.

A yellowish powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 5 parts of the fresh corpus luteum substance. It contains a true lipochrome which may be extracted by alcohol, ether or chloroform. On incineration, it should yield not more than 6 per cent. of ash.

Actions and Uses.—See Corpus Luteum.

Dosage.—0.03 to 0.06 Gm. (½ to 1 grain) twice daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

PHARMACEUTICAL PREPARATION ACCEPTED FOR N. N. R.

The following dosage form of an accepted proprietary article has also been accepted for N. N. R.:

Parathyroid Tablets, Armour.—Each tablet contains desiccated parathyroid gland 0.003 Gm. (1/20 grain).

(To be continued)

Therapeutics

INFANTILE DIARRHEA

Dr. Joseph E. Winters, New York, professor of diseases of children in Cornell University Medical College—according to a pamphlet recently received—read a paper on this subject before the Cleveland Academy of Medicine (April 15, 1910) in which he expresses his views in his usual terse and impressive manner. He reminds us that gastroenteritis and its associated diseases forms one-half of the whole number of infantile disorders and its mortality exceeds that of all of the zymotic diseases. The age at which death is likely to occur from these diarrheas is graphically shown by his statement that of 22,476 cases of infantile diarrhea, 88.8 per cent. were under 1 year of age. Of 19,886 fatal cases in the first year, nearly 70 per cent. were under 6 months, and 90 per cent. under 9 months. Of this entire number of deaths, less than 2 per cent. were breast-fed. This positively shows that fatal diarrhea occurs almost always in the nursing period, and almost always in bottle-fed or artificially fed infants. The cause, then, of infantile diarrhea is demonstrated to be germs that enter the child with its artificial food. As milk properly modified is generally the only proper food for the artificially fed child, it is to the milk that we must look for the cause of diarrhea.

It has been shown that milk cooled immediately after milking to 40 F. and kept at that temperature does not grow bacteria. The advantage of the upper classes in caring for milk as compared with the lower classes is shown by the fact that of fatal diarrheas only 1.2 per cent. belong to the so-called higher class. Economically, then, and of enormous social value is the necessity for cities, especially, to provide properly cooled milk for its infants. Pasteurization of milk may destroy germs, but not necessarily their spores and not the toxins that are produced by germs previously alive in the milk, all of which act to the disadvantage of the child, to say nothing of the fact that Pasteurized milk is not as easily digested as milk that has not been so treated. As pointed out by Winters, it is quite probable that many of the symptoms of toxemia shown by children who are suffering from diarrhea, such as prostration, delirium, convulsions, and even coma, to say nothing of incessant vomiting, may be due to the toxins contained in milk which are not destroyed by Pasteurization. In fact, Winters quotes an investigation of the Berlin Charité Hospital in which at this hospital it was found that "no amount of Pasteurization or sterilization had the slightest effect in preventing or controlling diarrhea."

To show the action of these bacterial toxins in the infant Winters quotes statistics of 634 fatal cases of infantile diarrhea. Of those who died during the first week (58 per cent.), one-half had bronchial pneumonia; and of those who died after the first week, not only bronchitis and bronchopneumonia were added causes of death, but there were found exudates into the pleura, nephritis and middle-ear catarrh.

It is generally recognized that a child with diarrhea cannot be made well until the intestines are thoroughly cleaned; in other words, surgical cleanliness as near as it can possibly be caused is a positive necessity. Intestinal mucous membrane folds, which are of necessity during health, for the retardation of intestinal contents for proper digestion and proper absorption and nutriment, are anatomic obstructions that become pathologic dangers when the same pockets retain putrefactive food products and abnormal bacteria and toxins. Therefore, as just stated, a thorough, complete and often repeated cleansing of the intestines with the best cathartics for this purpose, and then thorough washing with water from stomach to rectum, is the only proper etiologic treatment of the disease.

Winters thinks the most perfect cleansing cathartic is castor oil, and long years, almost ages, of experience has certainly demonstrated this drug to be the best for this purpose. To a child from 3 to 6 months old he advises a dose of a teaspoonful; from 9 months to a year, a dessertspoonful; and to a child from 1½ to 2 years, a tablespoonful. He administers the oil ice cold as a preventive of nausea, and repeats the dose in an hour if it is vomited. The oil must be given on an empty stomach; in other words, there must have been no nutriment given for two hours before, and nothing for two hours after, Winters thinks, not even water. For the next twenty-four hours certainly, and often much longer, he administers nothing but water to the child, and generally hot water. If there is much vomiting he would give a few drops of hot water on the tongue every ten minutes, and states that sometimes this quickly and completely checks the vomiting.

As a stimulant to the gastrointestinal secretions he advises the administration of ¼ grain of rhubarb with 10 grains of bicarbonate of sodium in a teaspoonful of water every two hours.

℞	Gm.		
Rhei	|30		gr. v
Sodii bicarbonatis	10|	or	ʒiiss

M. et fac chartulas 20.

Sig.: Dissolve a powder in a spoonful of hot water and administer every two hours.

It is interesting to note in Winters' treatment of diarrhea the entire absence of stimulants, antipyretics, and astringents; in other words, the absence of drugging. While sometimes such treatment seems to do some good, probably in the majority of instances they do more harm than good, and the disturbance in the child is a disturbance of nutrition.

The cause having been eradicated, the subject for discussion is how and when to feed the child. Winters decries all of the various substitutes for milk, except in rare instances condensed milk, disapproves of the various meat juices and names almost the whole list of artificial nutriments as coming under his disapproval. He recalls to our mind the necessity of fat for the growing babe, reminding us that one-half of the dried residue of the body of the infant at birth is fat, and "the expenditure of heat in an infant 5 months old is 130 calories per kilogram of body weight," which seems to demonstrate the physiologic absurdity of attempting to feed a child with egg albumin and barley water, "which contain .25 and .02 per cent. of fat respectively," and which is a frequent substitute food during diarrhea. He also reminds us that the lymph of the intestinal exudate contains from 4 to 6 per cent. of proteid, almost as much as blood plasma, and this loss must be returned to the child, soon, if the child is to be saved, and he believes that only animal proteid will satisfy the need of the child; that vegetable proteid is not well handled by the child. The top half ounce from a quart bottle of milk contains 3 per cent. of proteid besides containing the proper amount of fat, and this is the nutriment that he believes the child should receive after 24, 36 or 48 hours of water treatment, especially in a child under 6 months of age.

For a child from 3 to 6 months of age suffering with diarrhea Winters' food prescription is to take the top half ounce from each of two quart glass jars of milk sixteen hours after milking, these bottles to have stood upright on ice for six hours before taking the top cream. It is, of course, as above stated, presumed that the milk should have been iced from the time of milking. Mix a teaspoonful of this cream with an ounce of cold, unboiled, filtered water, to which two teaspoonfuls of lime water have been added, heat to the feeding temperature, and give one ounce every four hours. Throw the rest away and prepare fresh at each feeding. He does not use milk sugar when there is diarrhea. Between the four-hour intervals of feeding, viz., on the alternate four hours, he would give, from the bottle, hot or cold water, one or two ounces, as deemed best. At this period, then, the nutriment and water alternate every two hours.

After two days, if the child is doing well, with no digestive disturbance, one ounce of the above food is given every three hours and the water discontinued. If the child is still improving in another twenty-four hours, one and one-half ounces of the same food is given every three hours. At the end of the next twenty-four hours the strength of the food is increased by taking the top half ounce from each of three or four quart bottles of milk sixteen hours after milking. Mix two teaspoonfuls of this cream with one and one-half ounces of cold, unboiled, filtered water and add three teaspoonfuls of lime water. Give two ounces of this every three hours. In five days the food is again strengthened.

The feeding for a child from 6 to 12 months of age who has diarrhea is as follows: Take the upper ounce from each of two quart bottles of milk sixteen hours after milking, which means six hours after the milk is delivered in the city. Mix two teaspoonfuls of this cream with one and one-half ounces of cold, unboiled, filtered water, and add three teaspoonfuls of lime water. Give one and one-half ounces of this every four hours, and water in between the feedings, as above. After two days, if the child improves, give one and one-half ounces of this food every three hours and discontinue the water. Gradually increase the amount first and later the strength of the food as the child improves.

If a child of 2 years of age has diarrhea he has reached the age when he needs more protein and can digest starch; in fact, at most any time from a little more than a year to several years of age Winters thinks that a complete change of food to proper, well cooked cereal will aid in curing the diarrhea, and sometimes acts almost as a specific.

If mucus persists in the stools, or the diarrhea has been going on for a long time before coming under treatment, Winters believes that irrigation properly done may be of value. Prolonged irrigation he thinks pernicious and large amounts of fluid injected he believes to be vicious. Enough injection to cause pain or frighten the child does harm even if it does not actually cause shock. Such continued inflammation may be improved by the injection of an ounce of glycerin and an ounce of warm water thoroughly mixed and injected by means of a small syringe, slowly and gradually, just beyond the internal sphincter. High injections Winters does not approve of at all.

When intestinal irritation or inflammation becomes subacute or almost chronic, neglected and mismanaged cases, as Winters terms them, he advises the use of condensed milk for a period, and believes that this is the best nutriment that can be given under these conditions, unless a wet nurse can be procured. If the child is much over 6 months of age and has been bottle-fed it is often difficult to make it take milk from the breast. These patients then should receive condensed milk for a time until the inflammation is cured. It should not be used after the patient has recovered.

For a babe 3 months of age with this subacute or chronic diarrhea Winters prepares the food as follows: One teaspoonful of canned sweetened condensed milk is dissolved in twenty-four teaspoonfuls of water which is actually boiling. One ounce of this mixture should be used for each feeding and the rest should be thrown away, as this food should be prepared fresh for each feeding. To the ounce prepared and cooled from the boiling point to the temperature for feeding add two teaspoonfuls of lime water, and this quantity of nutriment should be given every four hours, alternating with an ounce of hot water and two teaspoonfuls of lime water; in other words, the food every four hours and the water every four hours, alternating at two-hour periods. In forty-eight hours, if there is improvement, he increases the quantity of the nutriment to two ounces, to which has been added one-half ounce of lime water, and this is alternated with two ounces of hot water and one-half ounce of lime water. In another forty-eight hours, with improvement, he increases the frequency of the nutriment to two ounces of the condensed milk mixture with one-half ounce of lime water every two hours, and the water is discontinued. A week later, the inflammation being apparently cured, he increases the strength of the food to a teaspoonful of the condensed milk to sixteen of boiling water, and gives three ounces of such a strength mixture, with one-half ounce of lime water, every three hours. As soon as the weather is cooler and the condition of the child seems favorable, the condensed milk treatment should be changed to modified cows' milk.

In another article by Winters, which was read before the Brooklyn Pediatric Society, he gives formulas for the bottle feeding of delicate infants during the summer months, of which the following are a few samples:

FOR A CHILD THREE MONTHS OLD

Take the upper 3½ ounces from each of three quart bottles of milk at 2 p. m., viz., about six to eight hours after the milk is delivered to a family in the city. To this add 4 teaspoonfuls of milk sugar, 12 ounces of filtered water and 6 ounces of lime water. This will furnish seven bottles of 4 ounces each, and 4 ounces should be the nutriment administered every three hours.

FOR A CHILD SIX MONTHS OLD

Take the upper 6½ ounces from each of two quart bottles of milk at 2 p. m., as before. Add 4 teaspoonfuls of milk sugar, 14 ounces of filtered water and 6 ounces of lime water. This will furnish six bottles of 5½ ounces each, and feed this amount (5½ ounces) every three and one-half hours for six feedings in twenty-four hours.

FOR A CHILD NINE MONTHS OLD

Take the upper 9½ ounces from each of two quart bottles of milk at the same hour as above. Add 12½ ounces of filtered water and 6 ounces of lime water. This will furnish five bottles of 7½ ounces. To each 7½-ounce bottle, just before feeding, add one ounce of barley gruel and administer this amount every four hours.

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[*For other information see second page following reading matter*]

SATURDAY, AUGUST 6, 1910

THE PHYSIOLOGY AND PATHOLOGY OF THE PINEAL BODY

Of all the "ductless glands" the pineal body has disclosed the least concerning its reason for existence, not enough having yet been learned by the physiologists to afford a basis for even a working hypothesis. Because of its inaccessible location experimental investigation in the living animal has been unsatisfactory or impossible, and practically nothing has been learned by experimental feeding or by injection of extracts. While clinical and pathologic observations have added much to our knowledge concerning the functions of other organs of this class, these sources of information have not been of service in the problem of the pineal gland, for the simple reason that pathologic changes are almost unknown in this organ. About the only lesions described, except for a few instances of tubercle and gumma, are tumors, and in a review of the literature Pappenheimer[1] was able to collect in all but thirty-eight cases of pineal tumor.

On account of their rarity, and the possibility that through these tumors some light may be thrown on the mystery of the pineal body, Pappenheimer's review possesses considerable interest. Structurally the tumors described vary greatly, three main classes being differentiated by Marburg; first, cystic tumors, which represent either ependymal cysts or simple softening of neuroglia; second, teratomas, which seem to be relatively quite frequent; third, tumors composed of several different cell-types representing one embryonal layer only, these types being usually glia cells, ependyma cells, and pineal gland tissue.

With few exceptions the tumors have been observed in the first three decades of life, only three patients being above 40 years of age, and two between 30 and 40. In this connection there develops an interesting observation which is highly suggestive as to the function of the pineal body, and this is that in three cases in which the pineal tumor occurred in children under 8 years of age there was associated precocious sexual development, while in a fourth case a boy of 9 years showed excessive obesity.

This fact is of particular significance when we recall that tumors of the adrenal have also been found associated with precocious sexual development, and that all the evidence indicates a close interrelation of the ductless glands. Concerning this last point it may be remarked that in some of the cases of pineal tumor there was also found a persistent thymus. It is not so simple, however, to deduce from these three cases the influence that the pineal body may have on the generative organs, for a tumor of a ductless gland may mean either an exaltation or an impairment of functional activity. If the former, then it may be assumed that the pineal body has a part to play in sexual development, similar to that which has been ascribed to the cortex of the adrenal; but if the tumor has destroyed the gland, then the associated sexual changes must be ascribed to removal of some hypothetic inhibitory action possessed by the pineal body. As in two of the three cases the histologic structure of the tumor indicated that the growth consisted of a hyperplasia of the essential cells of the pineal body, Pappenheimer believes the evidence to favor the view that in these cases the sexual precocity is the result of an augmented function of the pineal body in the developing organism.

Taken all together, the evidence is not very abundant or very satisfactory, but it is perhaps the best indication that we have yet obtained concerning the function of this little outgrowth from the brain, and it represents the first contribution made by pathology to our knowledge concerning the physiology of the pineal body. As pathology furnished the first fruitful information concerning the physiology of the adrenal, the thyroid and the hypophysis, its suggestions concerning the pineal body are entitled to particular consideration.

SUN-BATHS AND COMMON SENSE

That too much exposure to the sun's rays may be not beneficial, but distinctly deleterious, has been asserted by various writers on the subject. At this season it may be relevant to call attention to a custom that is said to prevail in certain parts of Germany of lying naked for hours on the bank of some stream, entering the water from time to time, and then returning to the bank to lie in the sun, the purpose being to obtain therapeutic benefit from the sunlight by this return to nature.

Grawitz[1] has studied the effects of these prolonged sun-baths, and his conclusions are averse to the teachings of these apostles of the "natural life." He says that this prolonged exposure of the uncovered body is prejudicial to the human organism, producing irritability and nervousness, cardiac and circulatory disturbances, in addition to various more or less serious dermal lesions. He also says that children taken to the seashore for the benefit of the air and the sunshine return brown and ruddy, but with unstable nervous systems, and thus lose the benefit of the summer outing, while if taken to the mountains, where most of the time is spent in the shade, they do well.

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[1] Pappenheimer, A. M.: Ueber Geschwülste des Corpus pineale, Virchow's Arch. f. path. Anat., 1910, cc. 122. Brief abstract in The Journal, June 4, 1910, p. 1913.

[1] Grawitz, E.: Injurious Action of Sun-Baths, Deutsch. med. Wchnschr., Aug. 19, 1909, No. 33; abstr. in The Journal A. M. A., Sept. 25, 1909, p. 1066.

Woodruff[2] and O'Malley[3] in this country have also studied the question, the latter calling attention to the fact that people from northern Europe, as the Swedes, find the climate of the United States very trying, and that the excessive sunlight is a detrimental factor. He also calls attention to the fact that people who are inclined to be nervous do badly at the seashore; their vacations should be spent in the woods, where they may have the advantages of the open air without excessive sunshine.

Woodruff has made some larger deductions, and attempts to show by figures that blonds and the people from the northern countries with less sunshine, and of less intensity, when living in areas with much sunshine, develop criminal tendencies, insanities and other pathologic phenomena associated with the nervous system, and that tuberculous patients do not do well when subjected to too much direct sunlight. He asserts that man instinctively avoids the sun, and that primitive peoples have been shade-dwellers, even in those countries where selection has developed a protective excessive skin pigmentation. It is also asserted that the blond type deteriorates in this country, and but for the immigration from regions of less sunshine would disappear, only the pigmented types by selection and survival remaining.

The races in the temperate zone have for centuries accustomed themselves to the protection afforded by clothing; the practice of going without is only another of the foolish unscientific fads or so-called cures which are too extreme to be of benefit, or are even injurious. Moderation in the use of sunlight, as in the use of every other good thing, is the sensible rule to follow.

VITAL STATISTICS AND PREVENTIVE MEDICINE

Notwithstanding the grievous lack of adequate laws concerning vital statistics in many of our states, an increasing amount of valuable statistical work concerning public health is being published every year. We are led to this observation by examination of the annual reports of health departments of cities and towns throughout the country received here from time to time. They come not only from the large cities, but also from some of the smaller cities, many of which have well-organized health departments, with physicians, sanitarians, bacteriologists, inspectors, laboratories and systematic methods of conducting their affairs. Unfortunately, the lack of uniformity in the preparation of many local reports renders instructive comparison impossible. In almost every instance, however, the reports show that those in authority have a most gratifying grasp of the essential features of public health and sanitary problems —water, milk and other foods, waste and its disposal, drainage, and the problems of quarantine and the infectious diseases. It is a matter of regret that there still remain so many cities and communities that have not yet awakened to the vital importance of this work.

Characteristic of all these reports are the statements, made with evident satisfaction by the health officers, that the incidence and mortality of infectious and preventable diseases have been reduced in their communities. This sort of statement is well-nigh universal and shows that efforts at sanitation and prevention, though often expensive and tedious to carry out, are rewarded by tangible results.

The report of 1909 of Augusta, Georgia, a city of fifty thousand inhabitants, is an instance of such a report and such results. The figures in this report show that the death-rate in that city has fallen from 26.78 per cent. in 1880 to 12.78 per cent. in 1909. In addition to the mortality tables, it contains other comparative statistical tables concerning infections and contagious diseases in the white and colored races, a record of births, reports on social conditions, laboratory reports, inspections, hospitals, and reports on work done in the prevention of malaria, typhoid, tuberculosis, etc. It is an example of the systematic and valuable work being done in numerous other cities and towns.

These reports show that the work they represent is beginning to be recognized, as it must be some day, as the most important work in the government of any municipality, and that it must receive in future a greater share of financial support and cooperation to give it the greatest measure of effectiveness. When this recognition and support are extended in all communities, urban and interurban, when the states enact and enforce adequate vital statistics laws, and the national department of health is established, directing and assisting public sanitary work and collecting and collating vital and contagious and preventable disease statistics, then the problems of public health and the prevention of disease will be an open book, and conclusions that will point to their solution may be readily drawn.

In the meantime the efforts of isolated cities and towns, like those reported from Augusta, are most valuable as indications of what can be accomplished in the larger way by wider and more concerted effort. The most immediate desideratum is greater uniformity in the preparation of reports from various communities. It is to be hoped that concerted action on the part of local health authorities will soon attain this end and make this material available for purposes of study and comparison.

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[2] Woodruff, C. E.: Dangers of Excessive Sunlight in Tuberculosis, New York Med. Jour., Sept. 12, 1908; abstr. in The Journal A. M. A., Sept. 26, 1908, p. 1106; A Study in Anthropology, New York Med. Jour., May 22, 1909; abstr. in The Journal A. M. A., June 5, 1909, p. 1884.

[3] O'Malley, A.: The American Climate and the Northern European, Am. Med., November, 1909; abstr. in The Journal A. M. A., Jan. 2, 1909, p. 75.

CEREBELLO-RUBRO-SPINAL POLIENCEPHALITIS

It has been shown that the toxic-inflammatory effects of the ultramicroscopic causative factor of acute poliomyelitis are not expended exclusively on the ganglion-cells of the anterior horns of the spinal cord, but that contiguous portions of the cord suffer also. Likewise, the morbid process is not always confined to the cord alone, but it may attack also the medulla and the encephalon. We may, therefore, have varying combinations of symptoms, in accordance with the distribution of the lesions.

The classic picture of acute anterior poliomyelitis—the spinal paralysis of infancy and childhood—with its sudden onset, vomiting, diarrhea, fever, flaccid paralysis and slow improvement, is but too familiar, while the symptomatology of polioencephalitis is less constant and less well known. Involvement of the cortex may cause convulsions, hemiplegia, mental deficiency, and even epilepsy; involvement of the midbrain, disturbance in the functions of the third and fourth nerves; involvement of the pons, disturbance in the functions of the fifth, sixth and other nerves; involvement of the cerebellum, a coarse ataxia, with muscular hypotonus and possibly nystagmus.

When the disease attacks the so-called cerebellorubrospinal system, the nerve-tract comprised between the dentate nucleus of the cerebellum and the red nucleus of the opposite side, by way of the superior cerebellar peduncle, for the one part, and the rubrospinal tract, or bundle of Monakow, in its course to the opposite side of the spinal cord, for the other part, there results a well-defined group of symptoms, which are brought out in a report by Leonard Pearson[1] of four illustrative cases. The distinctive feature is a coarse, regular, intention-tremor exhibiting from three to five oscillations in the second. The movement is involuntary and can be restrained only for a brief period. Volitional movement of the affected part is attended with an irregularity in the tremor such as is seen in cases of multiple sclerosis. In addition, there is a certain measure of paresis and rigidity, so that, at times, a clinical picture suggestive of paralysis agitans may be presented. The tremor sets in suddenly and may be widely distributed, involving head, tongue, trunk, abdomen and limbs. It is associated with increased muscular tonus, rendering movement slow, stiff and awkward.

The disorder has certain points in common with poliomyelitis, namely, the fact that the patients are often robust and well nourished; the prevalence in summer and autumn; occurrence in early childhood; the varying degree of constitutional disturbance; the acuteness of the onset; the subsequent improvement, and the negative results from examination of cerebrospinal fluid.

Current Comment

PHARMACOLOGIC NONENTITIES

It is probably a fact that if an enterprising pharmaceutical house should put a milk-sugar tablet on the market under a fancy name, endow it with the marvelous properties that so many proprietary products are wont to have, and spend a small fortune in advertising it through medical journals—milk-sugar would become (under its proprietary name) one of the most popular of the "newer remedies." As a corollary we should read learned (?) articles gravely detailing the wonderful results from the use of milk-sugar, appearing in those medical journals which either carried advertisements of it or hoped to carry advertisements of it. Furthermore, should investigators publish the results of scientific investigations of the product, showing that the therapeutic potency of milk-sugar was zero, such investigators would unquestionably be referred to as "theorists," "therapeutic nihilists" and "mere impractical faddists." That this hypothetical case is not overdrawn is proven by conditions that actually exist. A product, which has been variously called a "glucosid," a "concentration," and "the active principle" of *Cactus grandiflorus*, has been proved by practical tests and by scientific experiments—repeated over and over again by competent observers—to have no more therapeutic value than milk-sugar. Yet it is advertised, in one or two different forms, with a lavishness that indicates a very general use. Another series of scientific experiments and their results dealing with the same product or products are given in this issue of THE JOURNAL;[1] they merely corroborate previous researches along the same line and are published because of the widespread use of this pharmacologic nonentity. As a central theme for a treatise on the "Psychology of Advertising," cactina pillets and cactin may have their uses; as medicaments they should be relegated to the therapeutic scrap-heap. Some day the popularity of these inert products with physicians will be looked on as an example of the credulity of our profession—and rightly so.

FOREIGN APPRECIATION OF THE COUNCIL ON MEDICAL EDUCATION

It is interesting to look back over the last few years and see the change in the references to America in the medical press abroad. Formerly most of the references made were to the "adventuresomeness" of certain American surgeons, to the "diploma-mills," to the pushing into prominence of "half-baked ideas," and other references equally uncomplimentary. But a marked change has taken place. The improved organization of the American medical profession, bringing with it the creation and work of such permanent committees as the Council on Pharmacy and Chemistry and the Council on Medical Education are resulting in an appreciation abroad far greater than Americans realize; and, in some respects, the work is appreciated even more across the Atlantic than by the rank and file at home. A recent instance of this is the recognition now given to the work of the Council on Medical Education. This Council has been listed among the international organizations of the world in a pamphlet, "L'Internationalisme Médical,"[1] compiled partly to facilitate the work of the new permanent bureau for the organization of international medical congresses. The author, Dr. P. J. Eijkman, of The Hague, has the reputation in Europe of being a talented and indefatigable leader in the campaign against quacks, and all matters affecting the welfare of the profession. He refers in this pamphlet to 192 different international organizations already under way which are medical or connected more or less loosely with medicine, and among these is mentioned the Council on Medical Education. He says: "There is one association whose efforts deserve special mention, namely, the Council on Medical Education of the American Medical Association. It is incessantly striving to bring about greater uniformity in the preparation of physicians; unfortunately limiting its efforts to America, its work is not strictly international. However, if its efforts bear fruit and its example is followed, the time is not far distant when an international standard of requirements for the practice of medicine will be reached. . . . It is certain, however, that opinions will differ in regard to the requirements for the uniform standard, but all those who have read Schwalbe's pamphlet summarizing the laws in regard to practice of foreigners in the various countries cannot fail to acknowledge that the laws in vogue put altogether too many obstacles in the way of the practice of medicine outside of one's own country."

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[1] Pearson, L.: Birmingham Med. Rev., April, 1910, p. 148.

[1] Lyon, E. P., and Qualls, G. L.: "Experiments with 'Cactina' and 'Cactin,'" p. 455.

CONSUMPTION-CURE FAKES

It is probable that in no other organic disease does the psychic element play the important part that it does in consumption. No other class of patients is so easily influenced for better or worse than that suffering from pulmonary tuberculosis. How great a factor the mental one is was strikingly shown by the experiments of Albert Mathieu. This physician gave his tuberculous patients to understand that a wonderful cure for tuberculosis had been discovered in the shape of a serum to which he gave the name "Antiphymose." To these patients he gave injections of what they supposed to be this hypothetical serum but what actually was a small quantity of physiologic salt solution, and carefully noted their condition. A remarkable change was seen; the appetite improved, the temperature diminished, the cough, expectoration and night-sweats were mitigated and the patients began to gain in weight. With the discontinuance of the injections the old symptoms returned. Mathieu's experiment was merely a scientific proof of a fact that is familiar to every physician who has treated phthisical patients. Any change in treatment, or in the individual giving the treatment, results in a temporary improvement of the patient. It is this curious psychologic fact that makes the tuberculous patient a pitifully easy victim of those unconscionable villains who advertise to cure consumption. The speciously worded advertisement, the exaggerated claims, the favorable testimonials—all conspire to convince the consumptive that here at last is the long-hoped-for "cure." Hence the profitableness of this most despicable branch of quackery. In the Pharmacology Department of this issue another of the almost innumerable "consumption-cure" fakes is described and the methods of its exploiter detailed. As the viciousness and cruelty of this form of fraud is borne on one, it seems unbelievable that a civilized community should tolerate it. To the disgrace of our laws be it said, the consumption curer and the cancer quack are allowed to ply their nefarious trade practically unmolested by state or municipal authorities. Generally speaking, the only time these ghouls are interfered with is when the federal authorities take action for some infraction of the postal laws, for so long as the scoundrels keep within the somewhat broad requirements of these laws they are apparently immune from arrest. Will the time not come when an enlightened public opinion will either demand laws which will make the existence of such frauds legally impossible, or will demand that a construction be given to existing laws so that the necessary protection may be afforded the sick and helpless?

AN APPRECIATION OF MEDICAL INVESTIGATORS

In the British House of Commons, June 29, Colonel Seeley, under-secretary for the colonies, mentioned appreciatively the heroism of the investigators of sleeping-sickness, especially of Sir David Bruce, who had gone with his wife into the heart of the disease-ridden section where nearly every one was sick and no patient recovered. There were many other investigators, some of whom had succumbed in their efforts to find out the cause and remedy for the plague. Colonel Seeley said that when the history should be written of what had been done by these brave men it would perhaps be considered "as giving more striking proof of the ability of men to overcome natural fear than almost anything else in the annals of mankind." It is pleasing to see such recognition of the heroism of medical men from high official sources. Such deeds are not done under the excitement of battle. The risks are deliberately taken for human good and the danger fully appreciated, but too seldom are they thus publicly honored.

WHO PAYS?

An interesting question connected with the proprietary medicine business, worthy of just a minute's consideration, is "Who pays the freight?" So far as "patent medicines" are concerned, it is pretty evident that the burden falls directly on the layman. But what about the "ethical proprietaries?" Here the taxation is less direct. We refer elsewhere to a product—cactina pillets—that for over a third of a century has been advertised to and used by the medical profession and from the sale of which its exploiter is reported to have made millions.

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[1] This pamphlet is published in French and is issued by the Bureau Préliminaire de la Fondation pour l'Internationalisme, 6 Van Lennepweg, La Haye, Pays-Bas. (The Hague, Netherlands.) Price 2 francs (40 cents).

Therapeutically it appears to be worthless; commercially it has been a gold mine. Even now, in spite of what has been published regarding it, it must be having a profitable existence, for we find it advertised in over fifty medical journals. The amount of money that such a use of advertising space represents only publishers of medical journals can realize. Who pays for it all? It certainly is not the manufacturer nor the medical journals, since both profit by the exploitation of this therapeutic unreality. It must then be either the physician or the patient. Which is it? If the patient, the question becomes a moral one which is respectfully referred to the medical journals which advertise it and to doctors who prescribe it.

CRIPPEN

Last week we commented on the quackish career of Dr. Crippen, just arrested as a wife-slayer, and incidentally mentioned that he was for a while a resident of Philadelphia. It now appears that when in that city he was in the employ of "Professor" Munyon, whose picture, as he stands pointing heavenward past an aggressive pompadour, is as well-known to newspaper readers as is that of Lydia Pinkham. According to the *Medical Press and Circular*, Crippen went to England to manage the Munyon "remedies" in that country. There is a certain element of poetic justice in the case; if Great Britain were not the fertile field for quackery that it has become, Crippen probably would have remained on this side of the Atlantic, and that country would have been saved the expense of catching and prosecuting him.

LEPROSY

Press dispatches from Honolulu announce that Dr. Walter Brinckerhoff has expressed the opinion, based on his observations for the last four years at the leprosy experiment hospital at Molokai, that the use of alcohol by the natives is largely responsible for the leprosy occurring among them. This opinion is published on the eve of an election in which the license or no license of liquor sales is a question for decision, and it is therefore the subject of general discussion, not only by medical men, but by the public at large.

PREVENTION OF ACCIDENTS TO DEFECTIVES

An interesting discussion before the American Association for Study of the Feeble-Minded is recorded in the *Journal of Psycho-Asthenics*. The subject was the means of avoiding trouble from accidents to patients in institutions for the feeble-minded and epileptics. This discussion brought out the fact that in some institutions the details of every trivial injury are immediately written in the daily records. Then, if a visitor inquires about a bruise visible on a patient, it is possible to show just when and how it was received, without depending on mere verbal explanations which may or may not be believed. The official record usually satisfies the inquirer. The idea is a good one. It is impossible to prevent occasional injury to such patients, either from restraint or from their own violent actions, and every measure that tends to allay public apprehension on the subject should be adopted.

Medical News

CALIFORNIA

School of Tropical Medicine.—Plans have been formed by the health department of San Francisco for the formation of a school of tropical medicine for the study and treatment of tropical diseases in the port of San Francisco.

Few Fourth of July Accidents.—According to official report of the chief surgeon of the Emergency Hospital, San Francisco, only five cases of injury were reported in San Francisco on the Fourth of July. Last year the number was forty-five and the year before more than seventy.

Advertising Doctor Goes to Prison.—The appellate court in San Francisco has affirmed the judgment of the superior court against J. J. Arberry, who was charged with obtaining money under false pretenses. It was shown that he practiced medicine under the name of Dr. Taylor & Co. and accepted money from a patient whom he claimed had heart disease when there was nothing the matter with the patient. Arberry is now in prison.

Plague Conditions.—No case of plague has occurred in San Francisco in the last twenty-eight months, but a campaign against rats has been kept up. Thirty laborers are still employed exclusively as rat trappers. During May over 8,000 rats were trapped and many more poisoned by material placed within the sewers. The work has been under the supervision of Acting-Assistant Surgeon George M. Converse, U. S. P. H. and M.-H. Service.

Meeting of Milk Association.—The officers of the California Association of Medical Milk Commissions met in connection with the Santa Clara County Medical Society, at San José, July 20, the object being to arouse interest in the organization of local milk commissions. The meeting was addressed by Dr. George F. Barker, inspector in charge of the Bureau of Animal Industry of the United States Department of Agriculture. A number of dairymen attended the meeting. Other addresses were made on allied subjects. At the meeting Dr. Charles M. Richards, San José, was elected editor for Santa Clara county of the state medical society journal.

Personal.—Dr. Bert J. Lasswell has resigned as health officer of Quincy and has been succeeded by Dr. F. D. Walsh.——Dr. C. S. Allen has been made physician at the county farm at Los Angeles, to succeed Dr. Dumont Dwire, resigned.——Dr. Charles A. Tillotson, Culbertson, Mont., is now physician at the emergency hospital of a large oil company at Coalinga.——Dr. Harold S. Warren, Coalinga, city health officer, has received an appointment as deputy county health officer for Fresno County, thus giving him jurisdiction outside the corporate limits of Coalinga.——Dr. H. B. Graham, San Francisco, formerly a member of the faculty of the University of Vienna, has returned to California.

Hospitals and Charities.—The staff of doctors for the clinic conducted by the Catholic Humane Bureau, 597 Oak Street, San Francisco, has been appointed, with Dr. Gerald J. Fitzgibbon at its head.——Mrs. Whitelaw Reid, founder of the Red Cross Guild Hospital at San Mateo, will erect two additional buildings for the use of the hospital, to cost $100,000.——The Emergency Hospital at San Francisco treated over 25,000 cases during the year, the ambulance calls reaching over 4,000.——The New Harbor Hospital, San Francisco, opened Aug. 1.——Land has been purchased at Bakersfield by the Catholic diocese for the erection of a $50,000 hospital to be called the New St. Francis Hospital, taking the place of the old St. Clair Hospital.——The Masonic Home at Niles is building a new $40,000 hospital.——Berkeley dispensary and Berkeley charity organizations have joined their forces and will be established in new quarters at 1910 Kittridge Street.——The state board of health has established a substation of the state hygienic laboratory at Fresno, which is to have charge of all examinations in the counties from the Tehachapi mountains as far north as Stockton. A substation was also established at Los Angeles a year ago. The plan has been found to work admirably.——A $35,009 addition to Clara Barton Hospital, Los Angeles, is now under construction.——The San Joaquin Hospital Association has been formed at Stockton with a capital stock of $200,000. A non-sectarian hospital costing $125,000 will be erected at once.

ILLINOIS

Aurora Health Order.—Dr. Augustus R. Reder, health officer of Aurora, has issued to householders and property owners of the city a set of eleven rules in regard to personal hygiene and public sanitation which have attracted attention throughout the country. Rule eight requests all persons to bathe at least once a week.

Hospitals.—The great need of a public hospital in Sterling has been brought to the attention of the city council and the institution already in the city will probably be taken over by the city government.——The new Monmouth Hospital at Monmouth is now under construction. Dr. Edward L. Mitchell is a member of the building committee.——The new hospital for consumptives at the State Hospital for the Insane, Bartonville, is nearing completion.

Personal.—Dr. Francis E. Melugin, Thomson, recently underwent a surgical operation at the Clinton Hospital.——Dr. Clinton Helm, a practitioner of Rockford for thirty years, was recently stricken with paralysis.——Dr. Hiram T. Hardy, Kaneville, is in Wesley Hospital, Chicago, on account of an operation for gall-stones.——Dr. Charles True, Kankakee, is in a serious condition from a stroke of paralysis.——Dr. William J. Cheany, Petersburg, has been appointed county poor physician.——Dr. Elbert E. Clark, Danville, sails August 6 to attend clinics in Germany.

Chicago

Personal.—Dr. Stephen W. Cox has been appointed United States Pension Examining Surgeon in place of the late Dr. John W. Tope, Oak Park, and has been assigned to duty on the first pension board of Chicago.——Among the Chicago members of the American Society of Clinical Surgery who recently visited England as the guests of the English surgeons, Drs. A. D. Bevan, Frank Billings, M. L. Harris and L. L. McArthur have returned.

Care for Knights.—Elaborate preparations are being made to care for the health of the Knights Templar, who hold a conclave in Chicago next week. The Bulletin of the Department of Health for the present week contains much advice to the conclave. Among the healthgrams, presumably for their benefit, is the following: "Alcohol has hammered hob nails into many a man's liver." The knights are advised to drink lemonade and buttermilk and Lake Michigan water, which latter is declared to be harmless when not mixed with whiskey..

Chicago Medical Colleges and the Licensing Board.—Some time ago the Illinois State Board of Health declared the National Medical University—one of the Chicago "night" medical schools—not in good standing. The dean of this school now charges that he paid a fee to a Chicago lawyer-legislator for the apparent purpose of influencing the State Board of Health to reinstate the school. This dean further charges that five or six other medical colleges in Chicago are paying money to keep in the good graces. of the State Board of Health. All of the charges are denied, both generally and specifically, by the board, and the governor and the state's attorney have each started investigations of the whole matter.

IOWA

Infantile Paralysis.—At the instance of Dr. Thomas U. McManus, Waterloo, of the State University of Iowa, the state board of health has taken up the investigation of infantile paralysis. An expert will be sent from Washington by Surg.-Gen. Walter Wyman, U. S. P. H. and M.-H. Service, to aid in the investigation.

Board Adopts Higher Requirements.—It is reported that at a meeting of the Iowa State Board of Medical Examiners, held last week, it was decided to raise the minimum of preliminary education to be required after Jan. 1, 1911, to two years of collegiate work. This is in support of the three medical schools of Iowa, all of which have adopted a similar requirement to be enforced this fall and thereafter.

Personal.—Dr. Benjamin R. McAllaster, for many years head physician at the Cherokee State Hospital, has been appointed superintendent of the State Hospital at Jamestown, N. D.——Dr. Albert C. Moerke, Burlington, has been elected president of the state board of health.——Dr. George E. Decker, Davenport, has been elected chairman of the state board of medical examiners. Dr. Guilford H. Sumner, Waterloo, has been elected secretary of the above organization.——Prof. Henry Albert, Iowa City, was elected director of the state laboratory, and Prof. Charles M. Kinney, Des Moines, state chemist.

MARYLAND

Baltimore

Improvement to Be Made.—The Union Protestant Infirmary is about to undergo improvements at a cost of about $5,000.

State Board.—The Board of Medical Examiners of Maryland announces that ninety-three of the candidates who took the June examinations were successful and will obtain the license to practice. The board elected the following: President, Dr. Herbert Harlan, Baltimore; vice-president, Dr. B. W. Goldsborough, Cambridge; secretary-treasurer, Dr. J. McPherson Scott, Hagerstown.

Personal.—Among those sailing for Europe July 30 were Drs. J. B. Schwattra and Jennie N. Browne, and Dr. W. C. Lyle, Augusta, Ga.——Dr. Gideon Timberlake has been made associate professor of genitourinary diseases and Drs. Nathan Winslow, William H. Smith, William D. Scott, Jr., and G. C. Lockhard have been made asscociates in various departments at the University of Maryland.

MASSACHUSETTS

Infantile Paralysis.—Springfield has an epidemic of infantile paralysis, more than fifty cases having been reported within six weeks. Surrounding towns also report a number of cases.

Summer Medical Lectures.—Harvard University, medical department, is giving a series of lectures to students of the summer school and to the medical profession twice weekly at 5 o'clock. A schedule of interesting subjects has been arranged.

Floating Hospital.—The Boston Floating Hospital has opened for the season. The boat leaves the pier at North End Park, Commercial Street, daily at 9 a. m. and returns at 5 p. m. Age limit is 5 years. Mothers are permitted to accompany their children.

Prendergast Camp.—The Prendergast Camp, near Mattapan, conducted by the Boston Association for the Relief and Control of Tuberculosis, will hereafter admit cases of unarrested and incipient tuberculosis. Formerly only arrested cases were admitted.

Extension for City Hospital.—The trustees have purchased land at Harrison Avenue and Northampton Street, Boston, for $67,000, on which will be erected an extension to the City Hospital at a cost of $165,000. This extension is rendered necessary by the overcrowding of the hospital.

State Hospital for Nervous Troubles.—Under a recent law of the legislature the governor has appointed a commission, consisting of Dr. Owen Copp, Brookline; Dr. Burnham R. Benner, Lowell, and Dr. William N. Bullard, Boston, to investigate and report on the establishment of a state hospital for treating cases of nervous breakdown.

Personal.—Dr. Theobald Smith, bacteriologist to Harvard Medical School, has been given the degree of doctor of science by Harvard.——Dr. and Mrs. Alfred Saenger, Hamburg, Germany, are the guests of Dr. and Mrs. L. Vernon Briggs at Manchester-by-the-Sea.——Dr. Thomas F. Harrington, Boston, and Dr. George S. Mathews, Providence, R. I., have sailed for Europe.

MISSISSIPPI

Clinical Department Discontinued.—Owing to the failure of the last Mississippi legislature to make an appropriation for the support of the medical department of the University of Mississippi, which was established last year at Vicksburg, the trustees of the university have decided to discontinue that portion of the medical course, retaining only the work of the first two years at Oxford.

Reporting Tuberculosis.—Secretary Samuel H. McLean, of the State Board of Health, is sending out blanks to physicians for reporting cases of tuberculosis as provided for in the recent act of the legislature. The law in regard to reporting these cases will be enforced rigidly. Dr. Walter S. Leathers, recently appointed as agent of the Rockefeller Foundation, director of the campaign of sanitation and hygiene being waged by the state board, has commenced the publication of a series of bulletins on tuberculosis, endeavoring to make the people of Mississippi fully acquainted with the methods of fighting tuberculosis.

MISSOURI

Personal.—Dr. Louis W. Luscher has been appointed superintendent of the General Hospital, Kansas City, to succeed Dr. G. Wilse Robinson, resigned.——Dr. Milton P. Overholser, Harrisonville, and Dr. Ira W. Upshaw, St. Louis, have been appointed on the State Board of Health. Dr. Overholser succeeds Dr. Albert H. Hamel.——Dr. R. S. McGinniss, St. Louis, has been appointed to succeed Dr. Albert J. Campbell as surgeon of the Missouri Pacific shops at Sedalia, taking effect August 1.

Heads Association.—Governor Herbert S. Hadley has been elected president of the Missouri Association for the Relief and Control of Tuberculosis, to succeed Dr. William Porter, St. Louis. An aggressive campaign against tuberculosis has been planned, and Dr. James Stewart, head of the department of hygiene of the St. Louis Board of Education, accompanied by several prominent physicians, began a tour of the state August 1 in a special car furnished by the Frisco Railroad. Miss Winnifred Doyle will precede the car by about a week and form local committees to assist with the work in the various towns.

NEW JERSEY

Personal.—Dr. Walter Reynolds, a member of the board of education, of Atlantic City, was given the degree of LL.D. by Villanova College at this year's commencement.

School Age Limit.—The recent session of the New Jersey Medical Society in a resolution declared that the minimum age for the children to be admitted to the public school should be raised from 5 to 7 years.

School Medical Inspection.—Boards of education of the state are finding great difficulty in obtaining medical inspectors for the schools under the law recently passed by the legislature. The physicians of the state have fixed the price of $1 for each pupil inspected and opposition is raised to the inspection by parents, who object to public inspectors and who say that they have their own family physicians.

The Health Officers As Police.—The Department of Health of Camden decided on July 25 to appoint the inspectors of the board as special policemen to arrest all violators of the anti-spitting ordinance. It is planned to station these men at the ferries and to arrest all who spit on the sidewalks. The Board of Health proposes to see that the ordinance forbidding the keeping of poultry, swine or goats within the city limits is enforced.

NEW YORK

Society Election.—The eleventh annual session of the Lake Keuka Medical and Surgical Association was held at Grove Springs July 21 and 22. The following officers were elected: President, Dr. Ralph R. Fitch, Rochester; vice-president, Dr. Charles L. Stiles, Oswego, and secretary-treasurer, Dr. H. B. Nichols, Syracuse. The next annual meeting will be held at the same place.

Personal.—Dr. Charles W. Pilgrim, superintendent of the State Hospital at Poughkeepsie, has gone to Europe.——Dr. Albert Warren Ferris, president of the State Lunacy Commission, has sailed for Scotland to secure information regarding the construction by the state hospital commission of a hospital in Yorktown on Mohansic Lake.——Dr. Robert E. Doran, first assistant superintendent at Willard State Hospital for the Insane, has been selected as state medical inspector for the State Lunacy Commission.

Laws Against Stream Pollution.—Two legislatures having failed to strengthen the laws against pollution of public waters, application has been made to the governor for executive action under existing laws as indicated in the official report of the state commissioner of health. It was found that legislators who privately favor the recent bill voted against it out of "courtesy" to associate legislators. Sanitarians are much aroused and declare that there is no valid reason for opposition to the bill and characterize the action of the legislature as "misrepresentative government."

New York City

Care for Many Poor.—The New York Association for Improving the Condition of the Poor announces that on July 26 1,000 mothers and babies were sent to the seashore for the day. During the recent hot weather the number has ranged from 600 up to the high figure of the twenty-sixth. One feature of the work of the association this summer is the talk on the preparation of food, with a view to health and economy, which is given daily on different recreation piers.

City Death Rate Decreases.—There was a decrease of 14 per cent. in the death rate among infants for the week ending July 23. However, the total number of deaths of infants under one year was 76 more than for the corresponding week of last year and for children under five from diarrheal diseases 69 more than for the same week of 1909. The death rate for the week was 17.18 per 1,000 population compared with 16.17 for the corresponding week of last year. There were 674 deaths in tenements and 582 in institutions out of a total of 1,552 deaths.

Personal.—Dr. Alonzo S. Tredwell, Brooklyn, sustained rather severe injuries in an automobile accident recently.——Dr. Edwin A. Spies, ambulance surgeon of the Williamsburg Hospital, sustained a dislocated shoulder in a collision between his ambulance and a trolley car.——Dr. John B. Byrne, Jr., Brooklyn, has been appointed private clerk to Coroner Rooney of that borough.——Dr. Michael J. Thornton has been appointed assistant alienist at Bellevue Hospital. He has been mental examiner at Ellis Island for the past four years.——Dr. W. Gill Wylie and Dr. and Mrs. D. Hunter McAlpin have sailed for Europe.——Dr. Glentworth Reeve Butler, Brooklyn, has been appointed a member for three years of the State Board of Medical Examiners.

NORTH CAROLINA

Hookworm in Soldiers.—Dr. Samuel Westray Battle, surgeon-general of the national guard of North Carolina, has arranged for a critical study of the excreta of every soldier attending the annual encampment this year with a view to ascertaining the prevalence of hookworm disease. The state board of health will cooperate by affording laboratory facilities.

Personal.—Dr. D. A. Stanton, High Point, secretary of the state society, has been nominated by the Republican party to represent Guilford County in the house of representatives for the ensuing two years.——Dr. Armisted K. Tayloe, Washington, N. C., has been commisioned assistant surgeon in the North Carolina national guard with the rank of first lieutenant.

OHIO

Abolishing the Drinking Cup.—Director Orr of the Cleveland public schools has announced that the drinking cup has been abolished in all the schools of Cleveland and that the sanitary drinking fountains will be used in the future.

Taking Care of the Babies.—On account of the fact that every hospital in the City of Cleveland has been filled with sick babies, open-air wards have been established on the Andrews lawn, Euclid Avenue and Thirtieth Street, at the babies' dispensary, where twenty-six sick babies can be cared for.

Decisions Regarding Medical Examination.—By a recent decision of the Ohio courts the state board cannot compel applicants for medical certificates to go to Columbus, the state capital, for examination, but the board must conduct them in all large cities. The board held an examination in Cincinnati July 19, the first held outside of the state capital, when twenty-two applicants took the examination.

Personal.—Dr. Thomas P. Johnston of the Protestant Episcopal Hospital, Columbus, has been appointed lieutenant in the O. N. G. and assigned to duty with the Second ambulance company, which will go into camp at Marietta.——By order of the adjutant-general's department of the Ohio national guard the following appointments of officers of the medical corps have been made: Maj. Joseph A. Hall, Cincinnati, acting assistant surgeon-general; Maj. Frederick C. Weaver, Dayton, director of field hospitals; Maj. Sterling B. Taylor, Columbus, sanitary inspector, and Maj. Harry H. Snively, Columbus, director of ambulance companies, and to continue in command of the Second ambulance company.

PENNSYLVANIA

To Care for Insane at Home.—The court of Pottsville on July 25 ordered the erection of a new insane asylum for Schuylkill County to accommodate 650 patients. The action renders possible the withdrawal of the county's 400 patients from the state institutions by providing a home for them in their own county.

Typhoid at Harrisburg.—Thirteen cases of typhoid fever reported by physicians a few days ago have caused an investigation to be made on Harrisburg's milk supply. The city water is filtered and this has reduced the typhoid rate below that of any other city in the state. As the examination of the water shows good results, the state and city authorities are looking into the surroundings of all dairies.

Infantile Paralysis.—Infantile paralysis continues to prevail throughout the state and it is estimated that between 50 and 100 cases are present. The malady is not limited to any one section, but seems to be more or less general; however, the most cases have been reported from the counties of eastern Pennsylvania. The disease is being investigated by State Commissioner of Health, Dr. Dixon, and his assistants.

Tetanus Antitoxin Results.—The State Department of Health has furnished tetanus antitoxin for the treatment of twenty-nine patients who were injured in accidents with explosives July 4. The reports received from the physicians using the state's antitoxin up to date show that not one of these patients developed lockjaw. The department feels, therefore, that the plan of distributing antitoxin was well worth the money appropriated by the state.

Department of Abnormal Psychology.—As announced last week, the University of Pittsburg will establish in connection with its medical department a laboratory of abnormal psychology, under the direction of Prof. J. H. White and Dr. Edward E. Mayer. The hospital school for backward children, under the medical direction of Dr. E. Bosworth McCready, is an entirely separate institution, but was erroneously mentioned in the news item in connection with the department of abnormal psychology.

Campers Have Scarlet Fever.—The local health authorities at Norristown are much concerned over two boys who returned home ill from a camp at Betterdon, Md., and were found to be suffering from scarlet fever. They were members of a large camping party and were only in camp a few days when many of the boys were taken sick. Inspector Whitcomb notified the State Board of Health of Maryland and the Pennsylvania Board of Health of the many coming from the camp and going into various parts of the state, in the hope of preventing the spread of the disease.

Personal.—A state tuberculosis exhibit has been opened under Medical Inspector John A. Bouse in the Jefferson Avenue School at Bristol.——Dr. H. H. Wilford, Bangor, narrowly escaped death in the Delaware River at Foul Rift while attempting to shoot the rapids. He was rescued in a spectacular manner by friends.——Dr. George S. Criswell, Franklin, has been made a member of the board of examiners of the state institution for feeble-minded at Polks, to replace Dr. S. M. Jackson, deceased, and Dr. Marshall Phipps, Franklin, to replace Dr. W. W. Echols, deceased.

Philadelphia

City to Make Malaria Blood Tests.—Dr. Joseph S. Neff, director of the Department of Health and Charities, announced July 25 that Dr. C. Y. White, Jr., chief of the bacteriologic department, will hereafter make official blood tests for diagnosing malaria at the request of physicians. The department has been giving its aid for several years by making tests of typhoid fever, diphtheria and tuberculosis. Milk is also tested to determine whether it is infected.

Infantile Paralysis Reported.—As a result of the request, recently sent out by the Department of Health and Charities to physicians, two cases of infantile paralysis have been reported in Philadelphia. One is a child of two years old in West Philadelphia, and the other a child in Roxborough. These cases will not be quarantined, but other children will be kept away and the progress of cases, with all the surrounding facts of environment, will be carefully watched and reported.

Sudden Increase in Typhoid.—Fifty-two cases of enteric fever were reported for the month of July and gave rise to the suspicion of a possible defect in the city filtration system. This uneasiness was set at rest, however, by the investigation of the cases by the board of health, who have shown that the majority of the cases were contracted outside of Philadelphia. All of the patients were absent from the city for a week or more before the disease made its appearance, and had been contracted by the patients during their vacation in places where the drinking water was impure.

Nursery on Recreation Pier.—Under the auspices of the Department of Public Health and Charities and the Bureau of Municipal Research the Chestnut Street recreation pier nursery was opened July 27. Mothers can take their infants there and receive medical attention, while the nurse in charge will show them how to bathe and care for the young babies during the mid-summer weather. Within a few days a modified milk station will be opened on the pier, with complete appliances for heating milk, sterilizing bottles and nipples. Further improvements are contemplated, chief among them being various amusements for the youngsters, such as sand piles, hammocks, swings and cots.

Gift to Jefferson.—Mr. Daniel Baugh has purchased a large building at Eleventh and Clinton Streets and presented it to Jefferson Medical Colleg [illegible] ierly occupied by the Pennsylvania Colle, [illegible], and valued at $50,000, contains two [illegible] ooms and three large floors adapted for laboratory purposes. This addition will give the faculty an opportunity to transfer the anatomic and physiologic laboratories to the new quarters, and the extension of the clinical laboratories in the college building at Tenth and Walnut Streets, which are readily accessible from the dispensaries and wards of the hospital. The enlarged laboratories will be devoted to the instruction of advanced students in the junior and senior years.

Personal.—Dr. John Funke, demonstrator of morbid anatomy at Jefferson Medical College, resigned to take a position in the department of pathology at the Atlanta (Ga.) College of Physicians and Surgeons.——A testimonial reception was tendered to Dr. M. F. Mossel of the Douglas Memorial Hospital, at Musical Fund Hall, July 28.——Dr. Edward A. Leonard was advanced to the position of assistant physician to the insane department of the Philadelphia General Hospital, which was recently made vacant by the resignation of Dr. Samuel Stern.——Drs. Charles H. Frazier and Edward Martin have returned from abroad.——Dr. Frances R. Packard sailed for Europe July 28.——Dr. Elmer E. Funk has been appointed chief resident physician of Jefferson Hospital.——Dr. Harry Hudson has been appointed professor of orthopedic surgery in Temple University.——Dr. E. L. Klopp has been made chief of the new surgical dispensary of Jefferson Hospital and Dr. Arthur Davidson has been made chief of the orthopedic dispensary.——Dr. I. Franklin Cohn, U. S. N., has returned to the U. S. Naval Hospital, Philadelphia, from Washington, after having been promoted to the rank of passed assistant surgeon.

TEXAS

Hookworm Meeting.—At a recent conference of the members of the state board of health with Dr. Wickliffe Rose, of the Rockefeller Hookworm Commission, the action of the state board in refusing to participate in the Rockefeller hookworm fund was reconsidered, and it is now probable that a portion of the fund will be expended in Texas.

Death Rate Too High.—The bulletin of the Texas State Board of Health for June shows that while the average death rate from tuberculosis in the United States is 173 for each 100,000 population, the rate for Texas is 186. The board declares there is no justification for such a high rate in Texas and makes an apppeal to the health authorities and people of the state to reduce this mortality. In comparing the six largest cities of the state the mortality rate per 1,000 is found to be as follows: Galveston, 11.8; Houston, 16.5; Dallas, 17; Fort Worth, 20; San Antonio, 24.6, and El Paso, 37, the high death rate in San Antonio and El Paso being accounted for by the fact that they are health resorts with many imported cases of tuberculosis and other diseases. San Antonio protests against this finding of the state board and says that their local records show no such death rate.

GENERAL NEWS

Tuberculosis in Cuba.—There have been 39,084 deaths from tuberculosis in Cuba during the last ten years and 10,000 in the city of Havana alone. President Gomez has submitted a message to congress urgently recommending an immediate campaign against the rapid spread of the disease.

New Director of Hygienic Laboratory.—Dr. M. J. Rosenau, formerly director of the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service, having resigned June 30 to accept a position in the department of pathology of the Harvard Medical School, Dr. John F. Anderson has been permanently detailed as director.

Hospital at Cebu.—The government authorities in the Philippines have purchased from the Presbyterian Mission in Cebu a site for a hospital, which will supply the wants of over 1,000,000 people in that portion of the Philippines. The building will be an entirely new departure in hospital construction, being octagonal and built in such a manner that additions to any side can be made.

Physician Not a Prisoner.—Reports that Dr. Lawrence Burgheim, an American physician in Nicaragua, was being forcibly detained by the Madriz forces, has been denied in a report to the State Department. Dr. Burgheim was physician to General Irias, the Madriz commissioner in Eastern Nicaragua, but recently quit the Madriz service and is reported to be in charge of one of Estrada's hospitals in Bluefields.

School for Army Surgeons.—A Field Service School has been established at the army post at Fort Leavenworth in connection with the Army Service School already there, to be in charge of an officer of the Medical Corps with a grade not lower than major, to prepare officers of the Medical Corps and medical officers of the organized militia for the better performance of their duties as administrative and staff officers on field service, and to make research into such subjects as concern medical officers under field conditions. The course will cover a period of six weeks, beginning about April 1 of each year.

Mosquito War in Italy.—In his report to the Department of Agriculture Dr. L. O. Howard, of the Bureau of Entomology,' who has recently returned from the Italian Campagna, states that as a result of the war on mosquitoes in certain parts of Italy a healthy, cheerful-looking race and fat, rosy children have succeeded the miserable peasants, with yellow skins and bodies bent with disease and suffering. The Campagna, which was almost uninhabitable on account of mosquitoes and malaria, has now been drained by the government and is extensively farmed, and is beginning to support what will eventually be a large population. The government furnishes to the malarial population of the country "official quinin" at a cheap rate, and free to those unable to pay for it. The fight against malaria was inaugurated and pushed successfully by Dr. Angelo Celli, who is held in reverence by the common people of the country.

FOREIGN NEWS

New Hospitals.—Arrangements have been made to construct a new hospital at Vera Cruz, Mexico, to cost $100,000, to be called Melchor Ocampo, to take the place of the old San Sebastian Hospital which has fallen into decay.——The new hospital at Guadalajara is being furnished and will be opened shortly.

Cholera in Russia.—The report of the government sanitary commission, made public at St. Petersburg July 28, shows *that cholera is prevalent in 42 provinces and territories in* European Russia, and since the outbreak of the disease in May there has been a total of 37,652 cases with 16,651 deaths. Recently there has been a startling increase in the number of cases. During the week ended July 23 no less than 13,374 cases were reported and of these 5,979 terminated fatally. For two weeks prior to the report there was an average of 40 new cases daily in St. Petersburg.

Medals at Ophthalmic Congress.—During the last International C[illegible] Congress, held last year at Naples, eight gold [illegible] medals were offered for the best articles in honor of the late Professor de Vicentiis. The decision of the international committee in charge of the awarding of the medals was published last week in the last part of the transactions of the congress. The gold medals were awarded to A. Birch-Hirschfeld, A. de Lieto Vollaro, A. del Monte, L. Guglianetti, T. Henderson, G. Samperi, R. Seefelder and H. Villard. The recipients of the silver medals were W. Clausen, R. Pardo and K. Wessely. The representative for the United States on the committee was Dr. E. E. Blaauw, Buffalo, N. Y.

CANADA

Naval Physicians Wanted.—The Dominion Civil Service Commission is advertising for surgeons for the Canadian navy. Three will be engaged at first, not over 30 years of age, who will receive $4 per day for three years, and then $5 per day up to five years. After their term of service they will be granted gratuities of $1,000 to $1,500 each.

Protective Association.—The ninth annual report of the Canadian Medical Protective Association has been issued. The membership has been steadily growing until it now reaches the 700 mark. During the past year only two legal cases have been before the courts for alleged malpractice against members. One was successfully defended, and the other, in Alberta, is still before the courts. The association now has a bank balance of nearly $7,000. The annual fee is $3.00.

Typhoid in Montreal.—Typhoid fever is again becoming alarming in Montreal. In 1909 in a population of 400,000 there were 1,892 cases with 212 deaths, considerably the largest in the past ten years. At the present time (July 27) there are over fifty cases in the hospitals and nearly all hospitals are refusing further admissions. Up to the date mentioned this year there have been over 700 cases with 150 deaths.

Society News.—Dr. James Ross, Halifax, N. S., has been elected president of the Nova Scotia Medical Society. Dr. J. R. Corston, Halifax, was reelected secretary.——The Maritime Medical Association met in St. John, N. B., July 21 and 22, and elected the following officers: President, Dr. E. A. Kirkpatrick, Halifax; vice-president for Nova Scotia, Dr. G. E. DeWitt, Wolfville; vice-president for New Brunswick, Dr. G. G. Melville, St. John; vice-president for Prince Edward Island, Dr. H. E. McEwen, O'Leary; secretary, Dr. D. C. T. Watson, Halifax; treasurer, Dr. G. G. Corbet, St. John.——The Saskatchewan Medical Society, which was to hold its annual meeting on July 6, will meet at a later date, to be decided on.——The Academy of Medicine, Toronto, has issued its third annual report. The number of volumes in the library is 5,375. The society now numbers 301 members. The annual resident fee is $10.

Hospital News.—Regina, Sask., is to have an isolation hospital at a cost of $16,000.——Edmonton, Alta., has voted $175,000 for hospital construction.——Victoria, B. C., will endeavor to raise $45,000 for a new isolation hospital.——The Daughters of the Empire of Vancouver, will build a hospital for convalescents and incurables as a memorial to King Edward VII.——Prince Albert, Sask., has taken over the Victoria Hospital of that place for a civic hospital.——A cottage hospital is being built for Estevan, Sask.——Fredericton, N. B., is contemplating enlarging the Victoria Hospital of that place.——The new wing for the Toronto Isolation Hospital is to be finished by June 1, 1911, at a cost of $102,000.——Charges of mismanagement of the Toronto Isolation Hospital having been made on different occasions recently, the authorities of Toronto will conduct an official enquiry early in September.——Construction of the out-patient building and the emergency department of the new Toronto General Hospital will be commenced early this fall, and it is expected these will be ready for patients by the spring of 1912.

Personal.—Dr. Labrecque, Prince Albert, Sask., has returned from Europe.——Dr. H. G. McKid, Calgary, is visiting eastern Canada.——Dr. Mertha, Beroda, India, is visiting in Vancouver.——Dr. Charles J. Doherty, superintendent of the Hospital for the Insane at New Westminister, B. C., has returned from visiting similar institutions in eastern Canada.——*Dr. Mackenzie, Winnipeg, has been appointed medical* superintendent of the Canadian Northern Railway between Fort William and Vancouver. He will reside in Victoria, B. C., in future.——Dr. J. T. White, Winnipeg, has returned from visiting the hospitals in Chicago and St. Louis.——Dr. A. H. Beaton, for thirty-four years superintendent of the Provincial Hospital for Feeble-Minded at Orillia, Ont., has resigned.——Dr. D. Fuller McKenzie, Hespeler, Ont., has given up practice to become a missionary to China.——Dr. T. G. Roddick, Montreal, has sailed for England.——Drs. A. J. Fraleigh and Don. McGillivray, Toronto, are spending the summer in British Columbia.——Dr. J. W. S. McCullough, Alliston, Ont., a member of the Ontario Board of Health for four years, has been appointed secretary.——Professor J. George Adami, Montreal, will represent the Canadian Association for the Prevention of Tuberculosis at the meeting in Rome.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, July 23, 1910.

Prevention of Street Hawking by Children

The present government has distinguished itself above all governments by its humanitarian legislation, as has been shown in previous letters to THE JOURNAL, and especially by legislation for the protection of children. Drastic recommendations have now been made by a committee of the house of commons appointed to enquire into the employment of children, which is regulated by an act of 1903. Among the principal recommendations is that street trading by boys should be prohibited up to the age of 17 years and by girls up to the age of 18. After hearing many witnesses the committee came to the consclusion that the youthful street trader is exposed to many of the worst moral risks; he associates with, and acquires the habits of, the frequenters of the curbstone and the gutter. If a matchseller, he is likely to become a beggar; if a newspaper seller, a gambler. Street trading tends to produce a dislike for more regular employment. The child finds that for a few years money is easily earned without discipline or special skill; the occupation sharpens the wits without developing the intelligence. It leads to nothing permanent and is of no help to a future career. In the case of girls there is the further danger that such a life often leads to immorality. Evidence was also given that street hawking is attended with physical evils. The money easily earned is badly spent.

The Deadly Motor Car

In the year 1909 there were 1,151 fatal accidents caused by vehicles in the streets of the United Kingdom. Of these. motor cars were responsible for 311, motor omnibuses for 75, motor tramcars for 122, horse tramcars for 5, horse omnibuses for 16 and other horse-drawn vehicles for 622. Thus motor vehicles were responsible for 44 per cent. of the total fatal accidents. There were 26,872 non-fatal accidents, of which 7,149 (26 per cent.) were due to motor cars, 1,346 to motor omnibuses, 4,642 to motor tramcars, 111 to horse tramcars, 383 to horse omnibuses and 13,241 to other horse vehicles. In London 287 fatal and 11,731 non-fatal accidents occurred. Of the former 84 (29 per cent.) were caused by motor cars, 9 by horse-drawn omnibuses, 113 by other horse vehicles, 3 by horse tramcars, 26 by motor tramcars and 52 by motor omnibuses.

Fifty-two Hours Between the Birth of Twins

A South African practitioner, Dr. C. J. Hill-Aitken, has reported in the *Transvaal Medical Journal* a remarkable case in which a delay of fifty-two hours took place between the birth of twins. A native woman was delivered at noon. After the birth the pains ceased and did not return. Her friends waited patiently until the following afternoon and then sought European medical advice. The doctor was summoned and was told that while active interference was, if possible, to be avoided, his advice would be welcomed. He saw the patient about 7:30 p. m. and found that, while no labor pains were complained of, the uterus could be felt to contract at intervals and contained another child, which displayed active movements. There was no hemorrhage from the uterus or from the cord of the first child. The bag of membrane was unbroken and the head of the child was lying at the pelvic brim, which was wide and unobstructed. The doctor did not like to apply high forceps or to perform version in a native hut with a scanty hot-water supply and no table on which to place the patient. He also preferred not to take the risk of rupturing the membranes, though this might have hastened matters. On the following morning labor set in at 4.30 and the second child was born at 4 p. m. There was thus an interval of fifty-two hours between the births of the first and second child. Both the mother and the children did well.

Instruction to Girls in the Care of Infants

A medical member of parliament, Dr. Addison, lecturer on anatomy at St. Bartholomew's Hospital, has introduced a very useful bill requiring instruction in hygiene to be given in the public elementary schools and in the case of girls in the care and feeding of infants. He pointed out that 120,000 children die in this country under the age of 1 year, a proportion of 1 in 4. A large part of this waste is due to improper feeding and want of proper care on the part of those who nurse children. As stated in a previous letter to the The Journal, the Notification of Births act, with its attendant "health visitors," has brought about improvement in infant mortality, but more is possible. The instruction of the girls is to be quite simple and not to take up much of the school time.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, July 20, 1910.

The Causes of Sleep

In the Hamburg Medical Society, the neurologist, Dr. Trömner, delivered a short time ago an interesting address on the origin of sleep, distinguishing between the favoring, exciting and essential causes of sleep. The favoring circumstances are absence of sensory stimuli and lack of excitement; the exciting factors which set in action the function of sleep include fatigue, habit (the accustomed time and place for sleep), narcotics in part, and the idea of sleep, on which rests the suggestibility of this function. As to the actual cause of sleep, Trömner regards all theories incriminating fatigue as finally exploded because, (1) infants, although they have no occasion for fatigue, sleep nearly all the time, which Trömner attributes to a connection between sleep and growth; (2) because in later life sleep occurs habitually in the absence of any fatiguing activity, and (3) because excessive fatigue often causes insomnia in weak and irritable persons. Sleep is rather an active process of inhibition, acting in the first place on the sensory functions, as the measurements of the depth of sleep by Michelsohn and Czerny show, and in the second place acting on the motor and secretory functions. The question of the vasomotor changes of the brain in sleep has been settled by Czerny and Brodmann in favor of a moderate hyperemia, which is, however, to be regarded only as a secondary process. The biologic form of sleep is that of an instinct which, like other instincts in the human race, exhibits itself usually according to habit and is regulated by mental conceptions. Trömner assumes on various grounds that the thalamus opticus is the organ of this instinctive action.

The Effect of the Alcohol Boycott

The alcohol boycott instituted by the social democrats last year has had unexpectedly remarkable results according to the social democratic press. Since the boycott was enforced, the use of alcohol has markedly diminished. In the year ending May, 1909, 195,944 hectoliters (about 5,000,000 gallons) were consumed, while in 1910 only 157,976 hectoliters (about 4,000,000 gallons), or 19.4 per cent. less were used than in the previous year. Whether this favorable effect will continue will be awaited with interest.

Personal

As successor of Professor Verworn, Professor Jensen of Breslau has been called to Göttingen as professor of physiology.——Professor Filehne, the Breslau pharmacologist, has been elected as a foreign member of the Paris Academy of Medicine.——Professor Payr of Greifswald, as predicted in a previous letter, has declined the call to Tübingen as successor of Professor Bruns.——Professor Kretz of Prague has accepted the call to Würzburg as successor of Professor Borst.

Debate on Social Insurance Bill

The new imperial insurance bill is before the Reichstag and has been as usual referred to a committee selected for the purpose of examining it. This committee is composed of representatives of all the parties and its report will give expression essentially to the views of all parties. In order to make the process of legislation as thorough as possible and to guard against errors, every bill passes through two discussions in committee. After these two readings, the bill is brought before the full house and is here subjected to a threefold reading before it is finally disposed of. In all these phases of the discussion, marked changes in the individual paragraphs may be made and therefore it is never safe to prophesy, especially in the case of important laws, whether the law will pass the Reichstag or what its final form will be. It is on this fact that the physicians at present base their hopes; for if the law is passed in the form in which it has been placed before the committee, none of the demands will be accepted which medical men have formulated in the journals and in the society meetings. The view of the medical profession is expressed in the following very clear statement which the Krankenkassen committee of the German medical association (*Aerztevereinsbund*) has published:

"The report of the transactions of the sixteenth Reichstag committee regarding the paragraphs of the second bill of an imperial insurance law which refer to physicians shows a complete misunderstanding of the most elementary facts respecting medical questions, on the part of the government and of the representatives of most of the parties, and an unconcealed hostility to the medical profession which cannot but arouse the indignation of German physicians in general. The conclusions of the committee *signify* a marked impairment of the bill which was already impracticable; its enactment into law would necessitate the inflexible opposition of the organized medical profession. In view of the opinions expressed by the secretary of state in the imperial department of the interior and by the representatives of all the parties that the clauses regulating the relations of the Krankenkassen to the physicians are untenable and must undergo a complete revision on the *second* reading, it is to be expected that the demands of medical men will be finally accepted in their full extent. However, after what has happened, the medical profession can look forward to the next report only with the most serious misgivings."

I fear that neither the Reichstag nor the government will be much influenced by the indignation expressed in this statement, which is rather exaggerated, and that the mistrust expressed in the last sentence will be found only too well justified. However, it is a long way yet to the final decision. The committee interrupted its deliberations a few days ago and went on a summer vacation. It will not resume its labors again until the middle of September and finish them in November. In the course of the winter, the law should be discussed before the full house. There is still time for physicians to continue their efforts to influence the members of the Reichstag and the government in their favor.

Abstinence from Alcohol Among the Berlin Municipal Employees

The mayor has reminded the city officials that the use of alcoholic drinks during office hours will only be permitted in case of exceptional physical constitution of the individual and in these exceptional cases must be restricted as much as possible. At the same time the officials in general are informed that the regular use of beer and other alcoholic drinks in any considerable amounts during labor is injurious to health, especially to the nerves, and therefore should be given up in the interest of the officials themselves.

Marriages

A. Bayne Grubb, M.D., to Miss Hal Porter, both of Cripple Creek, Va., July 13.

Rudolph G. Andres, M.D., Cheney, Wash., to Miss Nellie M. Fisher, of Spokane, July 20.

George Chambers Woodson, M.D., to Miss Lillian A. Burger, both of Richmond, Va., July 19.

Leslie George Taylor, M.D., Perryville, Md., to Miss Jessie Rebecca Arthur, at Baltimore, July 20.

Alfred Joseph Toulon, M.D., U. S. Navy, to Miss Mabel Estelle Goodier, of Manila, P. I., June 11.

Reuben H. Hunt, M.D., San Francisco, to Miss Elaine Aimee Berthe Matignon, of Berkeley, Cal., July 21.

Otto Darwin Diehl, M.D., Centralia, Ill., to Miss Marjorie Nies, of Virginia, Minn., at Chicago, July 16.

Charles Brigham Chedel, M.D., Portland, Conn., to Miss Emma L. Foster, of Hanover, N. H., July 1.

Louis Grayson Harney, M.D., East St. Louis, Ill., to Miss Lela Elinor Workman, of St. Louis, June 14.

Frank N. Cochems, M.D., Salida, Colo., to Miss Myra Halstead Nugent, of South Haven, Mich., July 15.

Deaths

George M. D. Cantrell, M.D. Medical Department of the University of Nashville, Tenn., 1875; Vanderbilt University, Medical Department, Nashville, 1876; a member of the American Medical Association; professor of theory and practice of medicine in the College of Physicians and Surgeons, Little Rock; physician to the Arkansas State Penitentiary from 1887 to 1891; at one time president of the Arkansas State Board of Health; died in Denver, July 21, from tuberculosis, aged 58.

David W. Henderson, M.D. Starling Medical College, Columbus, Ohio, 1852; a member of the Ohio State Medical Association; a veteran of the Mexican War and a surgeon in the Ninety-sixth Ohio Volunteer Infantry throughout the Civil War; a resident of Marysville, Ohio, for seventy-three years, a practitioner of medicine there for sixty, and thought to have been the oldest practicing physician in the state; died at his home in Marysville, July 23, from paralysis, aged 87.

William James McAdams, M.D. Western Pennsylvania Medical College, Pittsburg, 1900; a member of the American Medical Association; a member of the staffs of the Southside Hospital, the Rosalia Foundling Asylum, and the Pittsburg Free Dispensary; professor of bacteriology and microscopy at the Pittsburg College of Pharmacy; died at his home in Pittsburg, July 23, aged 39.

Henry Louis Hammond, M.D. Harvard Medical School, 1866; a member of the American Medical Association; acting assistant surgeon in the Civil War; secretary of the United States Pension Examiners in Norwich, Conn., from 1888 to 1890; formerly of Killingly, Conn.; died on a railroad train in Texas, while en route from California to his home in Niles, Mich., July 17, from paralysis, aged 67.

William Edwin Wilson, M.D. University of Virginia, Department of Medicine, Charlottesville, 1873; Bellevue Hospital Medical College, New York City, 1874; a member of the Tennessee State Medical Association; of Pulaski, Tenn.; was drowned, July 17, while attempting to cross a swollen stream in returning from a professional call, aged 60.

Reuben C. Griffitt, M.D. University of Louisville (Ky.) Medical Department, 1870; Bellevue Hospital Medical College, New York City, 1876; a veteran of the Civil War; died at his home in Morgantown, Ind., July 22, from injuries received in a fall from the second story window of his house on the night of July 4, aged 75.

Frederick Chauncey Graves, M.D. New York University Medical College, New York City, 1888; a member of the American Medical Association; a well-known practitioner of Bridgeport, Conn.; died at the Galen Hospital, July 26, from the effects of poison, taken, it is believed, with suicidal intent, aged 47.

William L. C. Forrester, M.D. New York University Medical College, New York City, 1881; a member of the Board of Directors of the Medico-Chirurgical Hospital and visiting physician to the Masonic Home; died at his office in Philadelphia, July 19, from cerebral hemorrhage, aged 49.

Daison D. Drake, M.D. Albany (N. Y.) Medical College, 1864; for a number of years a member of the Board of Pension Examining Surgeons; for several years a member of the Johnstown, N. Y., Board of Education; died at his home in that city, July 20, from paralysis, aged 72.

Horace S. Lamson, M.D. Harvard Medical School, 1863; surgeon in the Third Rhode Island Heavy Artillery during the Civil War; died at his home in Providence, R. I., July 17, from nervous shock resulting from an automobile accident several weeks before, aged 72.

Horace F. Hanson, M.D. Berkshire Medical College, Pittsfield, Mass., 1866; a member of the American Medical Association; a Grand Army veteran; United States pension examining surgeon; died at his home in Bangor, Maine, July 17, from paralysis, aged 72.

Wellington John Smith (license, Pa., 1881); a member of the National Association of Railway Surgeons; Pennsylvania Railroad surgeon at Lykens for twenty-one years; died at his home in that place, July 13, from sarcoma of the neck, aged 73.

Leslie Dodd Ward, M.D. College of Physicians and Surgeons, New York City, 1868; of Newark, N. J.; vice-president of the Prudential Life Insurance Company; died in London, July 13, from nephritis complicated with pneumonia, aged 65.

Louis Richard Brown, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1864; a member of the Board of Health of Elizabeth, N. J., for several terms; died at his home in that city, July 18, from nephritis, aged 70.

Homer C. Shaw, M.D. Starling Medical College, Columbus, Ohio, 1852; army surgeon during the Civil War, belonging to the Tenth Ohio Volunteer Infantry; died at his home in Homer, Ill., July 23, from paralysis, aged 82.

Kenneth A. Blue, M.D. University of Maryland, School of Medicine, Baltimore, 1889; a member of the Medical Society of the State of North Carolina; died at his home in Laurinburg, N. C., July 16, from nephritis, aged 43.

John I. Bailey (license, Iowa, 1886); a veteran of the Civil War; for twelve years a member of the Pension Examining Board of Cedar County; died at his home in West Branch, July 12, from hemiplegia, aged 64.

Mark S. Leavy, M.D. University of Wooster Medical Department, Cleveland, Ohio, 1888; a member of the Medical Society of the State of New York; died at his home in Albany, July 19, from heart disease.

Henry Hastings Seargeant, M.D. Jefferson Medical College, 1861; a surgeon in the First Virginia Regiment during the Civil War; died at Cordonsville, Va., June 7, from paralysis, aged 69.

James Robert Roe, M.D. Eclectic Medical Institute, Cincinnati, 1854; of Canon City, Colo.; was found dead at his ranch near Gaffey, Colo., April 28, from heart disease, aged 78.

Charles E. Bainbridge, M.D. California Eclectic Medical College, Los Angeles, 1886; for a number of years a practicing physician of Sacramento, Cal.; died at that place July 9, from myocarditis.

William C. Bruns, M.D., University of California, Medical Department, San Francisco, 1878; of Portland, Ore.; died at the Good Samaritan Hospital in that city, July 16, from heart disease, aged 52.

Edwin Amsden, M.D. University of Buffalo (N. Y.) Medical Department, 1853; a veteran of the Civil War; formerly of Allegan, Mich.; died at San Diego, Cal., July 13, from senile debility, aged 84.

James O. Wilkerson, M.D. Missouri Medical College, St. Louis, 1882; a member of the Missouri State Medical Association; died at Cowgill, Mo., June 20, from cerebral hemorrhage, aged 58.

Jefferson Floyd Fuller, M.D. New Orleans School of Medicine, 1862; a surgeon in the Confederate Army during the Civil War; died at Jacksonville, Fla., June 18, from nephritis, aged 80.

Lester M. Currier, M.D. Hahnemann Medical College, Chicago, 1873; a member of the Illinois State Medical Society; died at his office in Freeport, Ill., July 6, from gall-stones, aged 63.

William Lorelle Duffin, M.D. Rush Medical College, 1873; a member of the American Medical Association; died at his home in Guttenberg, Iowa, July 24, from heart disease, aged 60.

Edwin S. Cave, M.D. Missouri Medical College, St. Louis, 1884; a member of the American Medical Association; died at his home in Mexico, Mo., July 10, from nephritis, aged 54.

Lawrence Edward Manley, M.D. New York University Medical College, New York City, 1883; died at Canton, Pa., April 10, from pulmonary tuberculosis, aged 54.

William Leaming Matthews, M.D. University of Pennsylvania, Department of Medicine, 1871; died at his home in Philadelphia, July 10, from paralysis, aged 61.

Joseph W. Crowley, M.D. University of Pennsylvania Department of Medicine, 1895; died at his home in Philadelphia, July 22, from pneumonia, aged 43.

Morey L. Reed, M.D. Rush Medical College, Chicago, 1892; of Lemmon, S. D.; died in Samaritan Hospital, Aberdeen, July 22, from Bright's disease, aged 51.

George Ferguson, M.D. University of Michigan, Department of Medicine and Surgery, 1854; a pioneer of Coldwater, Mich.; died at that city, July 23, aged 83.

James H. Kelly (license, Pa., 1894); of Monessen, Pa.; died at Hotchkiss, Colo., July 8, following an operation for the removal of gall-stones, aged 76.

John White Martin, M.D. University of Pennsylvania, Philadelphia, 1853; died at his home in Canonsburg, Pa., July 11, from paralysis, aged 82.

Jonathan Tullis Hall, M.D. Indiana Medical College, Indianapolis, 1876; died at his home in Sidell, Ill., July 10, from meningitis, aged 58.

Franklin R. Madison, M.D. Missouri Medical College, St. Louis, 1858; died at the home of his daughter in Portland, Ore., July 17, aged 76.

Pharmacology

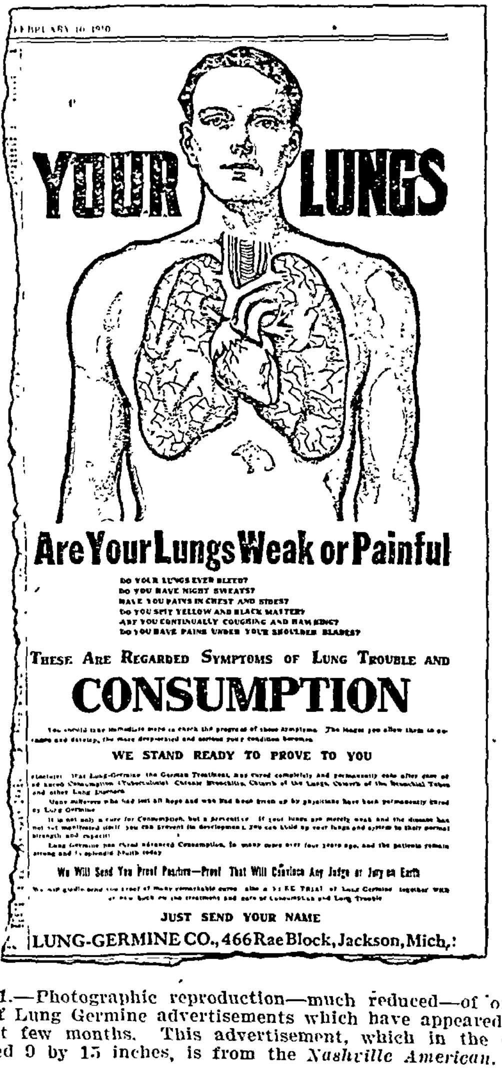
LUNG GERMINE [*]

A Consumption Cure With a "Guarantee" as a Bait

Lung Germine, which is advertised as having cured "severe and advanced cases of consumption," is put on the market by the Lung Germine Company of Jackson, Mich.—a town, by the way, that for its population has more than its share of quacks and charlatans who advertise on a national scale. The "medical director" of this concern is one C. R. Wendt, M.D., who claims to be a graduate of Leipsic University of Germany. The necessary air of mystery is given to Lung Germine by advertising it as having been discovered by "an old German Doctor Scientist." The method of reaching the public is the usual one—*via* those newspapers or magazines whose advertising conscience is atrophied or unborn (see Fig. 1).

HOW VICTIMS ARE CAUGHT

The victim who answers one of these advertisements receives a form letter gotten up to represent a personal communication; he also gets a "free trial treatment" of the "cure." It is carefully explained that the regular size treatment costs $5.00 and will be sent on receipt of price. Ten days later if the prospective victim still fails to bite, he gets another form letter in which he is again urged to send for the "cure." Should even this fail to cause him to send in an order, a third form letter follows in two weeks' time in which the reduced price of $3.00 is made. Eleven days later, if the money is still not enticed out of the victim's pocket, comes form letter No. 4 in which he is urged to deposit $5.00 with his local banker to be held in trust for one month and to be returned at the end of that time if he has not noted "benefit or favorable changes" in that time. In three more weeks the last attempt to get the patient's money is made by means of form letter No. 5. In this the company states that it is "going to do something which is absolutely against our business principles, in one more effort to introduce Lung Germine in your locality." The "something" is an offer to accept a mere $2.00 for "one full *month's* treatment of Lung Germine, the regular price of which would otherwise be $5.00." If this doesn't bring the *money* the Lung Germine Company charges the form letters, postage and "free trial treatment" up to profit and loss and closes the account.



YOUR LUNGS

Are Your Lungs Weak or Painful

DO YOUR LUNGS EVER BLEED?
DO YOU HAVE NIGHT SWEATS?
HAVE YOU PAINS IN CHEST AND SIDES?
DO YOU SPIT YELLOW AND BLACK MATTER?
ARE YOU CONTINUALLY COUGHING AND HAWKING?
DO YOU HAVE PAINS UNDER YOUR SHOULDER BLADES?

THESE ARE REGARDED SYMPTOMS OF LUNG TROUBLE AND

CONSUMPTION

WE STAND READY TO PROVE TO YOU

We Will Send You Proof Positive—Proof That Will Convince Any Judge or Jury on Earth

JUST SEND YOUR NAME

LUNG-GERMINE CO., 466 Rae Block, Jackson, Mich.

Fig. 1.—Photographic reproduction—much reduced—of one of a series of Lung Germine advertisements which have appeared within the past few months. This advertisement, which in the original measured 9 by 15 inches, is from the *Nashville American*.

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[*] This article, like similar ones that have appeared in THE JOURNAL, is reprinted in pamphlet form (4 cents in stamps) so that physicians may put in the hands of their patients information that is unobtainable elsewhere.

Correspondence

Registration of Foreign Physicians

To the Editor: There was a time when foreign medical schools, especially those of Germany and England, were considered superior to ours. At the same time there were nongraduate practitioners in all of our states, with *no registration* laws, and many localities were not supplied with competent physicians. At that time it was expedient to invite foreign graduates to locate here. To-day conditions have changed. Our colleges rank with the best schools in the world; foreigners come to our shores to learn our advanced methods, but our graduates are not recognized in those countries. Our states are now well-supplied with graduate and registered physicians; many of our cities are overcrowded, and yet foreigners, who *cannot make a living in their own* country, throng in. The profession in Germany is overcrowded. Canadian physicians are pouring into our country and American graduates are crowded out, and have no recourse of protection in their own country. The laborer, as well as the *American artisan and manufacturer*, is protected by our protective tariff; the price of commodities and cost of living are thereby raised, but the American physician has *no protection*; his charges are not higher than they were years ago, and he must compete with imported men.

We hope for reciprocal relations with other countries that will give the American physician a chance to enter those countries. Why should these countries accept such relations so long as our country is open to their graduates without reciprocity on their part? It is a poor rule that does not work both ways. Shut out the foreigner as we are shut out from other countries, and reciprocal relations will soon be established.

A. J. Hoenes. Denison, Iowa.

Pharmacologic Fetishisms—A Demand Made on the Iconoclast

To the Editor: It would be hard to express one's sensation after reading Dr. Barton's articles on this subject (May 15, 1909, p. 1557, and July 23, 1910, p. 284). I venture the assertion that every drug or combination of drugs mentioned in the two papers has been and is being used daily by physicians, with real or fancied results.

As there should be no tearing down without building up, it would be interesting *to know what Dr. Barton considers* effective treatment in the *conditions mentioned*. Our patients are not greatly *impressed with* hot-water compresses in sprains. When they *employ* us they usually look for a more elaborate treatment than they are capable of administering to themselves. If the time-honored lead and opium lotion (and I presume all applications of the same character) has no virtue, pray what are we to use? I think Dr. Barton owes the profession a debt, in that in taking away our confidence in these preparations heretofore considered valuable, he does not at the same time suggest effective substitutes.

C. N. Branin, M.D., Baltimore.

Error in Brooks' Article on the Action of Alcohol

To the Editor: Through an error which I failed to notice on the proof you sent me, one paragraph is out of place in my article on "The Action of Alcohol on the Normal Intact Unanesthetized Animal" in The Journal, July 30. On page 374, in the second column, the paragraph commencing "On several successive days" refers to the first method by a T-cannula and not to the third method, which is described *immediately* preceding this paragraph.

Clyde Brooks, Chicago.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will omitted, on request.

LICENSE AND PRACTICE IN GUATEMALA

To the Editor:—What are the requirements for registration by American physician in Guatemala, Central America?

D. C. R., Fort Worth, Texas.

Answer.—A foreign physician cannot practice in Guatemala wit out *first passing* a general medical examination in the Spanish la guage, before the Faculty of Medicine of Guatemala City.

SCARLET RED IN OIL FOR ULCERS

To the Editor: Kindly give me the particulars of the subcuta cous treatment of ulcers with scarlet red in olive oil, as to t strength of solution, *required amount of each injection*, frequen of administration, how near the diseased area the injections shou be made, what untoward symptoms, if any, to guard against, etc or refer me to the literature on the subject.

B. Schwartz, Philadelphia.

Answer.—Hypodermic injections of scarlet red in oil were ma experimentally by Fischer, Schmieden and others with the resu *of causing atypical proliferation of epithelium*, resembling somewh the process in carcinoma. It was found by Helmholz that t scarlet red oil must be in close contact with the epithelium in ord to cause it to proliferate. Consequently for therapeutic purpos it must be applied *directly to the* wounded surface to be stimulat The *technic of the application of scarlet red ointment to granulati* surfaces is described by J. S. Davis (*Bull. Johns Hopkins Hospit* June, 1909), and an abstract of his article appeared in T Journal (July 10, 1909, p. 146). Davis uses ointments of vario *strengths with a simple petrolatum base and also ointments* mad *antiseptic by the addition of various agents*, such as boric acid, zin iodoform, blue ointment and balsam of Peru. He usually employ an 8 per cent. ointment, which is also the strength recommende by Krajca, Morawitz and others. The ointment is applied ov the whole surface *if the ulcer is small, otherwise to the granulati* border. It must not be left on more than twenty-four hours, a marked irritation and even gangrene may occur. It is well to war patients that the ointment may stain the dressing as otherwi they may think that the wound has been bleeding. *The followin articles may be consulted:*

Kaehler: *Med. Klinik*, May 31, 1908, p. 836.

Krajca: *Munchen. med. Wchnschr.*, Sept. 22, 1908, p. 1969.

Schmieden: *Zentralbl f Chir.*, 1908, xxxv, 153.

Morawitz: *Erfahrungen über die Behandlung granulierend Wundflächen mit Scharlachrotsalbe, Therap. Monatsh.*, Septem ber, 1909, p. 479.

Davis, J. S.: *Ann. Surg.*, January, 1910, p. 40.

DETERMINATION OF COAGULATION TIME OF BLOOD

To the Editor:—Kindly publish a reliable method for determining *the coagulation time of blood*. What materials are necessary? What may be considered the normal time for human blood to clot outside of the body?

H. Trossbach, M.D., Colorado Springs, Colo.

Answer.—*The older methods*, such as Hayem's, have been discarded because they did not give uniform results. Wright's method consists in drawing a certain amount of blood into each of a dozen capillary tubes, which are immediately placed in a small vessel containing water at *a temperature of* 37 C. The time at which the *blood* is drawn into each tube is noted, the tubes examined at minute intervals by blowing slightly into them and the time when coagulation has occurred is determined by the readiness with which the drop will move. If it cannot be expelled, *coagulation* is complete. If, when expelled, it shows a slight clot, coagulation has begun and if it is expelled without any evidence of clot, it is noted that coagulation has not begun. *The method of Russell and Brodie* is considered the best by many. *A truncated cone of glass* is fitted so as to project *downward into a moist* chamber; the lower surface of this cone is about 4 mm. in diameter and on it is placed a drop of blood which it must just cover. The glass is then quickly *fitted* into the moist chamber. A gentle stream of air is *directed against* the blood by means *of a bulb attached* to a fine tube, projecting *through the side of the moist* chamber, and the behavior of the corpuscles in the drop is watched with the low power of the microscope. The corpuscles will at first move freely and independently of one another, but will afterward form clumps on the periphery. As the process of *coagulation continues*, the corpuscles can no longer move in the drop, but the drop changes in shape and mass, the corpuscles showing first an elastic concentric motion and finally an elastic radial motion, i. e., the current of air will cause *the* corpuscles to move toward the center and to spring quickly back to their original position when the current of air ceases. This is taken as the final point; the result can be confirmed by the demonstration of a clot if the disk be quickly removed and the drop touched to a piece of filter-paper.

Various figures have been given as the normal coagulation time, which varies with the instrument used; but with the method described, an average of five minutes has been found. Above nine minutes means delay in coagulation.

SANITOL AND OTHER MOUTH-WASHES

To the Editor:—What is the formula of "Sanitol?" Cannot a similar mouth-wash be prescribed by the physician instead of using the proprietary preparation? W. H. W.

ANSWER.—Sanitol is advertised to contain salitrol, limocine, formol, *Plantago major,* menthol and spirits of cologne. Different formulas appear to have been given, one of which contains boracic acid and the other does not. We have no positive information as to the present composition of sanitol, since the composition of nostrums is subject to change without notice, but can refer to an analysis made some time ago. This showed that it contained phenyl salicylate (salol), formaldehyd, menthol and alcohol. Whether it contained *Plantago major* (common plantain) could not be determined as specific tests for this plant are unknown. The names "salitrol" and "limocine" represent substances which, if they exist at all, are known by those names only to the manufacturers of sanitol. It seems evident that whatever virtues sanitol possesses reside in the formaldehyd, the menthol and the alcohol. What virtue is to be attributed to the salol is uncertain.

A superior preparation of known composition could easily be devised by mixing appropriate quantities of menthol, liquor formaldehydi, and cologne (spiritus odoratus, N. F., page 228) or ordinary alcohol, adding salol if desired Most formulas for such mouth washes contain thymol instead of menthol. Liquor Antisepticus Alkalinus N. F. may be recommended. The following is given by the British Pharmaceutical Codex:

Salol	2.50
Thymol	0.25
Spirit of anise	1.00
Oil of peppermint	0.50
Elixir of gluside (saccharin)	2.50
Alcohol, sufficient to produce	100.00

Dissolve the salol and the oil of peppermint in 50 of alcohol, add the spirit of anise and the elixir of gluside, make up the required volume by the addition of alcohol, and filter.

Elixir of gluside (Brit Pharm. Codex, p. 329) contains benzo sulphinide (saccharin) 5 parts, sodium bicarbonate 3 parts, alcohol 12.50 parts, and water to make 100 parts.

P. Caldwell in the *Druggists Circular,* November, 1908, gives the following formula for a mouth-wash:

Tincture of green soap	1	ounce
Glycerin	1	ounce
Water	6	ounces
Alcohol	6	ounces
Oil of peppermint	7	minims
Oil of wintergreen (synthetic)	7	minims
Oil of cloves	⅔	minim
Oil of cassia	⅔	minim
Compound tincture of cochineal	to color	

Mix the alcohol and water; add the glycerin and the tincture of green soap; then add the oils, previously mixed; and lastly color with the compound tincture of cochineal. Let the mixture stand twenty-four hours, and then filter.

SUDDEN DEATH FOLLOWING ADMINISTRATION OF DIPHTHERIA ANTITOXIN

To the Editor:—Please give references to articles on sudden death following the administration of diphtheria antitoxin.

J. B. GREENE, Asheville, N. C.

ANSWER.—Rosenau, M J., and Anderson, J. F. (*Bull. 29, Hyg. Lab.*, U. S. P. H. and M.-H. Service, Washington, p. 79) review the literature of the toxic action of horse serum and refer to Gottstein (Ueber Todesfälle, welche bei der Anwendung des Diphtherieheilserums beobachtet worden sind, *Therap. Monatsh.*, 1896) who collected reports of eight deaths following the injection of serum in those having diphtheria and four in those not sick with diphtheria. Rosenau and Anderson state that they have collected reports of nineteen cases and know of several more which have not been reported.

Since 1906, we find the following articles:

Gillette, H. F.: Diphtheria Antitoxin in Bronchial Asthma, THE JOURNAL, Jan. 4, 1908, p. 40.

Boone, E. L.: Sudden Death Following Use of Diphtheria Antitoxin, THE JOURNAL, Feb. 8, 1908, p. 453.

Patterson, F. J.: An Attempted Explanation of Sudden Death Subsequent to Injections of Antitoxin, *Carolina Med. Jour.*, March, 1908.

Stephens, L. C.: Have the Recently Reported Deaths from Diphtheria Antitoxin Been Satisfactorily Explained? *Jour. South Carolina Med. Assn* , December, 1909.

Miller, E. C. L., and Root, W. W.: Serum Sickness and Sudden Death Following Hypodermic Administration of Antitoxin, *Therap Gaz.*, February, 1910; abstr. in THE JOURNAL, March 19, 1910, p 1006.

References may also be made to *Bulletins 36, 45, 50 and 64, Hyg. Lab.*, U. S. P. H. and M -H. Service, Washington.

It should be noted that the sudden deaths from the administration of diphtheria antitoxin have been shown by Rosenau and Anderson to be due to the action of horse-serum and not to the antitoxin These accidents are extraordinarily rare and the risk is too slight to deter any one from the use of this beneficent remedy when indicated.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 23, 1910:

Ekwurzel, George M , major, left Fort Mackenzie, Wyo., en route to Camp of Instruction, Fort D. A. Russell, Target and Maneuver Reservations

Hill, Felix R , lieut., left Fort George Wright, Washington, en route to American Lake, Wash.

Ford, Clyde S., major, left Fort William H. Harrison, Montana, en route to American Lake, Wash.

Pierson, Robert H., capt., and De Voe, Ralph G., lieut., detailed to duty with troops, military tournament, Tacoma, Wash., July 24 to 31, 1910.

Hess, Louis T., major, assigned to duty as inspector-instructor, Medical and Hospital Corps, First and Fifth New Jersey Infantry, at Sea Girt, N. J., from July 25 to 31, 1910.

Weed, Frank W., capt., assigned to duty as inspector-instructor, Medical and Hospital Corps, Fourth New Jersey Infantry, at Sea Girt, N. J., from Aug. 1 to 6, 1910.

Hendricks, C. M., contract surgeon, July 13, reported for duty at Fort Bliss, Texas.

Carpenter, Alden, dental surgeon, left West Point, N. Y., on 30 days' leave of absence.

Talbott, E. M., capt , and Haverkampf, C. W., lieut., left Camp Dickinson, Chicago, en route to Camp Upton, Sparta, Wis.

Halloran, Paul S., capt., left Walter Reed General Hospital, Takoma Park, D. C., on 10 days' leave of absence.

Brechemin, Louis, Jr., capt., granted 30 days' leave of absence.

Kelly, John P., M.R.C., granted two months' and twenty-eight days' leave of absence.

Pascoe, James B., M.R.C., ordered to Fort Wood, N. Y., for duty.

Reynolds, Charles R., major, in addition to his duties as instructor in Hospital Corps drill and first aid at the Army Medical School in this city, is detailed as instructor at that school in Medical Department administration, customs of the service, and duties of medical officers, vice Lieutenant-Colonel Willaim H. Arthur, Medical Corps, hereby relieved.

Hathaway, Levy M., capt., granted leave of absence for one month.

La Grange, Louis A., colonel, Crosby, Wm. D., lieut.-colonel, and McCaw, Walter D., lieut.-colonel, appointed members of a board of review to meet in this city for the purpose of reviewing the proceedings and findings of medical examining boards in the cases of medical officers found to be disqualified for promotion for reasons other than physical disability contracted in line of duty.

Tefft, William H , capt., granted leave of absence for one month and ten days.

Stuckey, H. W., M.R.C., relieved from duty at Fort Hamilton, N. Y., and ordered to Fort Greble, R. I , for duty.

Reasoner, M. A., capt., granted leave of absence for one month and fifteen days.

Kean, Jefferson A., lieut.-colonel, and Russell, F. F., major, detailed to represent the Medical Department of the Army at the thirty-eighth annual meeting of the American Public Health Association, to be held at Milwaukee, Wis., Sept. 5 to 9, 1910.

Kierulff, H. N., M.R.C., left Fort Missoula, Mont., with the Fourteenth Infantry en route to camp at American Lake, Wash.

Hartnett, E. H., major, is assigned to duty as inspector-instructor of Medical and Hospital Corps detachment, organized militia, State of Delaware, at Rehoboth, Del., July 27 to 30, 1910.

Woodson, Thomas D., lieut., and Duncan, William A., capt., left Vancouver Barracks, Wash., for Camp of Instruction at American Lake, Wash.

Cutliffe, W. O., M.R.C., left Fort McIntosh, Texas, with troops en route to maneuver camp at Leon Springs, Texas.

Manly, C. J., major, June 25, left Fort Douglas, Utah, on detached service with the Fifteenth Infantry, en route to Dale Creek, Wyo.

Grubbs, Robert B., major, left Fort McIntosh, Texas, en route to maneuver camp at Leon Springs, Texas.

Holland, J. H., M.R.C., June 25, left Fort Douglas, Utah, en route to Dale Creek, Wyo., with troops.

Appel, A. H., colonel, left Fort D. A. Russell, Wyo., en route to Camp E. S. Otis, Fort D. A. Russell, Target and Maneuver Reservation, Wyo., for duty as chief surgeon.

Hughes, Leonard S., M.R.C., reports arrival at Camp E. S. Otis, near Dale Creek, Wyo.

Long, Charles J., dental surgeon, left from temporary duty at Fort Andrews, Mass., en route to Fort Rodman, Mass., for temporary duty.

Hutton, Paul C., major, left Fort Snelling, Minn., en route to Camp Upton, Sparta, Wis.

Bevans, James L., capt., and Reynolds, Royal, lieut., ordered to proceed from Army General Hospital, San Francisco, with one-half of Company B, Hospital Corps, to American Lake, Wash. On completion of this duty to proceed to Atascadero, Cal.

Hopwood, L. L., capt., and Austin, Thomas C., lieut., July 11, ordered to proceed from Fort Lawton, Wash., to the Camp of Instruction, American Lake, Wash., for duty.

Scott, Minot E., dental surgeon. On completion of temporary duty at Fort Worden, Wash., will return to station at Vancouver Barracks, Wash.

Truby, Willard F., major, ordered to proceed from Fort Worden, Wash., to Camp of Instruction, American Lake, Wash.

Fisk, Owen C., lieut., ordered to proceed from Fort Crook, Neb., to Camp of Instruction at Fort Riley, Kan.

McKnight, John R., M.R.C., ordered to proceed from Plattsburg Barracks to Fort Ontario, N. Y., for temporary duty.

Myers, William H., M.R.C., reports arrival at Camp Gilchrist, Fla., left Fort Screven, Ga., on July 17, 1910.

Barney, Fred M., M.R.C., left Fort Clark, Texas, for duty at Camp of Instruction, Leon Springs, Texas.

Gibson, Franklin J., contract surgeon, reported for duty at Fort Clark, Texas.

Wertenbaker, C. I., M.R.C., granted 30 days' leave of absence.

Winn, Robert N., major, granted 3 months' and 21 days' leave of absence to take effect about Oct. 1, 1910.

Changes for the week ended July 30, 1910:

The following named medical officers are detailed for duty at the Camp of Instruction, Pine Camp, Jefferson County, N. Y., and will proceed to the camp so as to arrive not later than July 28, 1910: Majors Willcox, Charles; Reynolds, F. F.; Wilson, James S.; Reno, William F.; Patterson, R. U., and Lieutenants Davis, William C., and Casper, Joseph.

Culler, Robert M., capt., granted 30 days' leave of absence.

Barney, Charles N., major, ordered to Fort Monroe, Va., for temporary duty.

Vose, William E., major, ordered to proceed to Fort Riley, Kan., about August 15, for duty at Camp of Instruction until Sept. 15, 1910.

Ferenbaugh, Thomas L., lieut., will be relieved from duty at Camp of Instruction, Fort D. A. Russell, Maneuver Reservation, August 10, and will return to Fort Des Moines, Iowa.

Gapen, Nelson, capt., now on leave of absence, will proceed to Pine Camp, N. Y., for duty, and on completition of this duty will return to leave status.

Boyer, Perry L., capt., sick leave of absence extended 15 days.

McMillan, C. W., M. R. C.; Murtagh, John A., major; Fuller, Leigh A., major; Jenkins, Frederic E., M. R. C.; Van Dusen, James W., major; Burket, John A., lieut.; Ford, Joseph H., major, will proceed from their respective stations to the Camp of Instruction, Fort Riley, Kan., reporting not later than Aug. 13, 1910, for duty.

Hartsock, F. M., major, and Newlove, George, M. R. C., ordered to duty with troops from station to Camp Perry, Ohio.

Scott, Minot E., dental surgeon, left Vancouver Barracks, Wash., en route to San Francisco, for transportation to Manila, P. I.

Pulver, Arthur L., M. R. C., ordered to proceed from temporary duty at Fort Wood to Fort Jay, N. Y., for temporary duty.

Stallman, George P., M. R. C., ordered to proceed from Fort Douglas, Utah, to Fort Wingate, N. M., for temporary duty.

Reynolds, F. P., major, left Fort Monroe, Va., en route to Pine Camp, N. Y., for duty.

Allen, John H., major, left camp at Gettysburg, Pa., with troops en route to station, Fort Myer, Va.

Willcox, Charles, major., left Fort Totten, N. Y., en route to Pine Camp, N. Y., for duty.

Hoff, John Van R., col., will proceed, at the proper time, to the Camp of Instruction, Pine Camp, Jefferson County, N. Y.

Grissinger, Jay W., capt., on arrival at Seattle, Wash., will proceed to Fort Des Moines, Iowa, for duty.

Cowles, Calvin D., Jr., lieut., on his relief from duty as surgeon of the transport *Logan*, will proceed to West Point, N. Y., for duty.

Gandy, Charles M., lieut.-col., granted leave of absence for 3 months, effective on being relieved from duty at West Point, N. Y.

Norris, H. C. R., M. R. C., orders directing him to proceed to the Philippine Islands, for duty, revoked.

Lyster, William J. L., major, granted leave of absence for 4 months, to take effect about Oct. 1, 1910.

Whitney, Walter, M. R. C., orders directing him to proceed to Fort Egbert, Alaska, for duty, revoked.

Suggs, Frank, M. R. C., relieved from duty at Fort Hamilton, N. Y., and ordered to Fort Egbert, Alaska, for duty.

Owen, L. J., capt., detailed for duty as inspector-instructor of the Hospital Corps, Organized Militia of Michigan, to be held at Ludington, Mich., Aug. 9-18, 1910.

Scott, George H., capt., granted leave of absence for 2 months, with permisison to go beyond the sea.

Peed, George P., capt., on completion of duty at Camp of Instruction, Gettysburg, Pa., directed to proceed to Fort Bayard, N. Mex., for temporary duty at General Hospital.

Bispham, William N., capt., granted 20 days' leave of absence.

Long, Charles J., dental surgeon, returned to Fort Adams, R. I., from temporary duty at Fort Rodman, Mass.

Gunckel, George I., dental surgeon, returned to Fort McPherson, Ga., from leave of absence.

Medical Corps, U. S. Navy

Changes for the week ended July 30, 1910:

Rhoades, G. C., asst.-surgeon, ordered to duty at Naval Hospital, Norfolk, Va.

Downey, J. O., asst.-surgeon, detached from Naval Hospital, Norfolk, Va., and ordered to duty at Naval Hospital, Philadelphia.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended July 20, 1910:

Wasdin, Eugene, surgeon, granted 1 month's leave of absence from July 22, 1910, on account of sickness.

Eager, J. M., surgeon, granted 7 days' leave of absence from July 21, 1910.

Nydegger, J. A., surgeon, leave of absence for 7 days from July 3, 1910, amended to read on account of sickness, in accordance with paragraph 202, Service Regulations.

Wickes, H. W., P. A. surgeon, directed to proceed to Washington, D. C., and report to chairman of board of medical examiners to determine his fitness for promotion to the grade of Surgeon, July 20, 1910.

Holt, John M., P. A. surgeon, granted 17 days' leave of absence from Aug. 11, 1910, and 19 days' leave of absence from Sept. 1, 1910.

Glover, M. W., P. A. surgeon, granted 10 days' leave of absence from July 25, 1910.

Lloyd, B. J., P. A. surgeon, granted 1 month's leave of absence from July 20, 1910, on account of sickness.

Roberts, Norman, P. A. surgeon, granted 1 day's leave of absence July 21, 1910, under Paragraph 191, Service Regulations.

Pettyjohn, Joseph, P. A. surgeon, granted 1 month's leave of absence from Aug. 15, 1910, on account of sickness.

Knight, C. P., asst.-surgeon, granted 7 days' leave of absence from July 18, 1910, under Paragraph 191, Service Regulations.

Gray, E. George, acting asst.-surgeon, granted 7 days' leave of absence from July 25, 1910.

Onuf, B., acting asst.-surgeon, granted 4 days' extension of leave of absence from July 17, 1910, on account of sickness.

Safford, M. Victor, acting asst.-surgeon, granted 10 days' leave of absence from July 20, 1910.

Seavey, L. T., acting asst.-surgeon, granted 21 days' leave of absence from Aug. 8, 1910.

Walker, Thos. D., Jr., acting asst.-surgeon, leave of absence for 11 days from June 28, 1910, amended to read 8 days from June 28, 1910.

Board of medical officers convened to meet at the Bureau July 30, 1910, for the examination of Passed Assistant Surgeon H. W. Wickes, to determine his fitness for promotion to the grade of surgeon. Detail for the board: Assistant Surgeon General J. D. Long, chairman; Surgeon W. P. McIntosh; Surgeon G. B. Young, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Optometry Campaign in Wisconsin

The Optical Journal and Review for June 30 says:

"Good ammunition for the opening gun of their new campaign for an optometry law has just been secured by the Wisconsin association. The following postal and reply card was sent to each of the 2,700 physicians in the state:

> *Dear Doctor:* At the next session of the legislature there will be introduced a bill providing that all persons other than physicians who practice optometry, or in other words, who examine eyes and fit glasses must pass a satisfactory examination before a board appointed by the governor for that purpose.
>
> We believe that you favor such a law, and will be thankful to you if you will so state on the attached reply card and mail same. If you do not favor such a law, we will be glad to hear from you and to know your reasons.
>
> Hoping for a prompt reply, I am
>
> Very truly yours,
> C. D. Waugh, Secretary, Milwaukee.
>
> I do————————favor the passage of a law requiring all persons, other than physicians, to pass a satisfactory examination before being allowed to practice optometry, or in other words before being allowed to examine eyes and fit glasses in Wisconsin.
>
> ..............................M.D.
>
> If you do not favor the proposed law, fill in the word "not" in the proper place at the top of the card.

"A recent number of the *Wisconsin Medical Journal* contained a reproduction of the card and an article asking physicians not to indorse the proposed law. In spite of this, however, 1,050 of the 1,100 replies received indorsed the proposed law. Coming from physicians, the optometrists think that they have in these replies an excellent weapon to use as soon as the legislature meets. This will not be for seven months yet."

Attention has already been called to the methods used in securing the endorsement of unthinking physicians for the "optometry" bills before presentation before state legislatures. These endorsements are secured through a specious and disingenuous presentation of the objects of the bill, which masks its real import. Almost invariably when the situation is explained to physicians who have endorsed such a measure they are emphatic in their statements of opposition to it. This question should be brought before every county society in every state and the members enlightened in order that their signatures may not be secured for the endorsement of unwise measures.

State Boards of Registration

COMING EXAMINATION.

NEBRASKA: State House, Lincoln, August 10-11. Sec., Dr. E. Arthur Carr, 141 S. 12th St., Lincoln.

Louisiana May Report

Dr. F. A. LaRue, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, May 19-20, 1910. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 122, of whom 93 passed and 27 failed. Two candidates did not complete the examination. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1910)	75, 82.6
Birmingham Medical College	(1909)	82.6
College of P. & S., Little Rock	(1910)	80.0
[illegible]ty Medical School	(1892)	83.8
	(1904)	80.2
	(1909)	75
Tulane University of Louisiana	(1890) 80; (1901) 84; (1909) 80.8; (1910)	75, 75, 75.4, 76.6, 76.6, 76.8, 78, 78.4, 79, 79.6, 79.6, 79.6, 79.6, 80, 80.2, 80.2, 80.4, 80.6, 81, 81, 81, 81.6, 81.6, 82.2, 82.6, 83.8, 83.8, 84.2, 84.4, 84.4, 84.6, 84.8, 85.6, 86.2, 86.2, 86.4, 86.4, 86.4, 86.8, 86.8, 86.8, 86.8, 87, 87.6, 87.6, 87.8, 88.2, 88.2, 88.4, 88.4, 88.6, 88.8, 89, 89.2, 89.4, 89.4, 91.2, 94.
Saginaw Valley Medical College	(1903)	84.0
Vanderbilt University	(1910)	80.8, 85.4
University of Nashville	(1910)	79.6, 79.8, 80.6, 83.2, 83.2, 84.8
University of the South	(1901)	89.2
Memphis Hospital Medical College	(1910)	75, 75.4, 76, 76.2, 77.6, 79.6, 80, 80.2, 80.2, 81.4, 84.2, 84.6.
College of Physicians and Surgeons, Memphis	(1910)	81.0
Meharry Medical College	(1910)	79.2
Galveston Medical College	(1888)	79.8

FAILED

College	Year Grad.	Per Cent.
University of Alabama	(1910)	71.2
University of Arkansas	(1909)	63.4
College of P. & S., Little Rock	(1910)	71
Louisville Medical College	(1903) 69.4; (1906)	56.4
Flint Medical College	(1910)	56.6, 58.8
Tulane University of Louisiana	(1910)	71.4, 73.8
Baltimore Medical College	(1907)	73
Ensworth Medical College	(1892)	49.8
College of P. & S., Kansas City	(1901)	42.2
University of the South	(1903)	67.8
Meharry Medical College	(1909)	60, 66
Memphis Hospital Medical College	(1900) 65.2; (1908) 65.2, 63.8; (1909) 47.2; (1910)	65, 68.4, 68.4, 69.6, 69.6, 72, 73.8.
Dallas Medical College	(1903)	62.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Louisville	(1909)	Kentucky
University of Maryland	(1895)	Virginia
University of Virginia	(1909)	Arkansas

Massachusetts May Report

Dr. E. B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the written examination held at Boston, May 10-12, 1910. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. Practical laboratory tests were also required. The total number of candidates examined was 36, of whom 18 passed, including 2 non-graduates and 2 osteopaths, and 18 failed, including 4 non-graduates and one osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Tulane University of Louisiana	(1908)	76.5
University of Maryland	(1889)	80
Medical School of Maine	(1895)	75
Baltimore Medical College	(1909)	75
Harvard Medical School	(1909) 80, 80.5; (1910).	78.4
Tufts College Medical School	(1909)	79, 80.5
Dartmouth Medical School	(1908)	85
Jefferson Medical College	(1905)	85.1
Hahnemann Medical College, Philadelphia	(1909)	76.2
University of Pennsylvania	(1889)	80
University of Naples, Italy	(1905)	75

FAILED

College	Year Grad.	Per Cent.
Medical College of Georgia	(1901)	49.3
Baltimore University	(1906)	57.4
College of P. & S., Baltimore	(1909)	72
College of Physicians and Surgeons, Boston	(1908) 53.5, 59.5, 61.9, (1909)	63, 67.
Tufts College Medical School	(1909)	69.4
Leonard Medical School	(1908)	67.5
University College of Medicine, Richmond	(1907)	61.3
Laval University, Canada	(1909)	62.1
University of Naples, Italy	(1906)	70.3

Book Notices

ALCOHOL A DANGEROUS AND UNNECESSARY MEDICINE. How and Why. What Medical Writers Say. By Mrs. Martha M. Allen, Superintendent of the Department of Medical Temperance for the National Woman's Christian Temperance Union. Cloth. Price, $1.25. Pp. 435. Marcellus, N. Y.: Department of Medical Temperance of the National Woman's Christian Temperance Union [1910].

In this preface to the second edition of her book, Mrs. Allen says that ten years have brought about a great change in the attitude of physicians as regards the use of alcohol as a drug. This is largely true, as anyone following the literature of the day can observe. It is probable also that the work of the society under the auspices of which her book was first published has contributed considerably in an indirect, if not in a direct way, to this result. Physicians are not insensible to influences from any quarter and many of them have possibly been induced to give more particular attention to this subject than they would otherwise have done.

While at the present time the majority of physicians consider alcohol a useful if not an indispensable agent in the treatment of disease at times, they also recognize its dangers as a habit-inducing drug, and an increasingly large number of them are making less and less use of it. This is shown in the reports from hospitals as well as from the testimonies of physicians, which Mrs. Allen has collected and added to the testimonies already given in her earlier edition. Without the scientific pretensions of the report of the committee of fifty it is probable that this book is far more influential and that its general conclusions are more acceptable to the profession than those of the other work.

In this edition many additions have been made, notably those in the remarks on "patent medicines" and proprietary foods, and on the recent researches of Laitinen, Reid Hunt and others. It must be remembered that the Woman's Christian Temperance Union was early an active agent in the campaign against nostrums containing alcohol, etc., so that when Mr. Bok began his series of articles in the *Ladies' Home Journal* he was accused of "bowing to the clamor of the W. C. T. U." For this at least the organization deserves the gratitude of the medical profession.

The work of the Council on Pharmacy and Chemistry is referred to by Mrs. Allen and she might have used it even more. She is not always as cautious in her selection of authorities as a physician might desire. This, with some carelessness of proofreading, is the main blemish of the work, which in most respects is excellent in its way and worthy of respectful consideration by physicians, though all may not accept fully its conclusions.

BEITR[illegible] UTSPEKTRA, unter Berücksichtigu[illegible] säure. Von Reg.-Rat Dr. med. E. [illegible] und Dr. med. Fr. Frantz, ständ. [illegible] und Dr. phil. R. Heise, technisc[illegible] Paper. Pp. 304, with 15 illustrations. Price, 9 marks. Reprint from *Arb. a. d. k. Gsndhtsamte*, XXXII, No. 2. Berlin Verlag von Julius Springer, 1909.

This monograph deals with the technic of photographing absorption spectra and the application of spectrum photography to the study of hemoglobin and derivatives thereof. For the purpose of securing photographs of the entire visible spectrum and at the same time a register whereby the exact location of absorption bands may be determined directly from the picture, the authors employ a specially devised apparatus. The feature of this consists in an appropriate helium bulb, the emission spectrum from which is recorded simultaneously on the same plate with the absorption spectrum under study. In the numerous and remarkably beautiful photographic plates with which this work is illustrated the entire spectrum shows with perfect clearness, while the bright-line helium grating serves for purposes of orientation. The authors claim for this method a superiority over any in which results must be subjectively recorded. With their technic the authors negative the view that formic acid poisoning causes methemoglobinemia. Perhaps the most valuable part of the work lies in the certainty with which it establishes the characters of normal blood spectra. Since minute traces of a number of abnormal blood pigments (e. g., methemoglobin in alkaline poisoning) can be detected with certainty it is suggested that this method might find practical application in the clinic.

HIGH-FREQUENCY ELECTRIC CURRENTS IN MEDICINE AND DENTISTRY. Their Nature and Actions and Simplified Uses in External Treatments. By S. H. Monell, M.D., Professor of Static Electricity, International Correspondence Schools, 1898-1903. Cloth. Price, $4 net. Pp. 465, with 32 illustrations. New York: William R. Jenkins Co., 851 Sixth Avenue, 1910.

We confess our inability to take this volume seriously. It is one of the many works with which electrotherapeutics is burdened, which commingle fact and fancy (as the workaday man sees things) until the statement of the subject is hopelessly discounted to the mind of the matter-of-fact reader. The author begins with a long fable; and the rest of the work seems to us a mixture of fable, poetry, romance and other products of the imagination. Not that we would imply that the author is insincere. Far from that. He has the sincerity that comes from unbounding enthusiasm and endless confidence in his therapeutic agent—a confidence and enthusiasm that amount to ecstasy. And while ecstasy may produce poetry, it is not the mental state to record or weigh cold physical facts. "As the vision of the resplendent structure [high-frequency electrotherapy we suppose he means] rises before our therapeutic eye we love to dwell on its noble possibilities, its sun-like center from which would radiate the blessings of these greater remedies to mankind, of comforts spread abroad, of mercies scattered, of lengthened lives, and fuller usefulness to myriads of men and women now borne down by the weight of burdens that drugs do not lighten and that surgery does not help." The book can be commended for its Homeric swing and imagery. But, oh, that fewer men who write on electrotherapy would adopt this style, and more would state the really valuable uses of the method in unexaggerated convincing words!

DIE PROCTO-SIGMOSCOPIE UND IHRE BEDEUTUNG FÜR DIE DIAGNOSTIK UND THERAPIE DER KRANKHEITEN DES REKTUM UND DER *FLEXURA SIGMOIDE.* Von Dr. H. Strauss in Berlin. Cloth. Price, 7.50 marks. Pp. 149, with illustrations. Leipzig: G. Thieme, 1910.

This work is divided into five sections, the first being devoted to a short historical introduction, and the larger portion to technic. In Part 2 the various instruments are described, and the anatomy is fully elaborated and well illustrated. In Part 3 the pathology of the different regions is carefully described, beginning with the anal region and ending with the sigmoid. Parts 4 and 5 are devoted to treatment, many cases being reported to emphasize the author's methods and results. A number of satisfactory colored illustrations show the normal and diseased appearances of the structures, a particularly useful one being Plate 1, showing a longitudinal section of the lower intestinal canal from the sigmoid to the anus in the normal state, with its various divisions, the external and internal sphincters, Houston's valves, etc. This work can be recommended to readers of German who wish a complete exposition of this modern method of diagnosis.

— TECHNIK FÜR DIE ÄRZTLICHE PRAXIS. Ein zte und Studierende. Von Dr. Julius Schwalbe. aper. Price, 22 marks. Pp. 979, with 537 illustrations. Leipzig. Georg Thieme, 1910.

To this addition have been added two entirely new sections—one on the important subjects of dietetics and one on skin and venereal diseases. The article on dietetics occupies nearly 100 pages and constitutes a valuable addition to the work. In addition to general principles, the dietetic treatment of metabolic diseases and diseases of the digestive organs is described in detail. The section on skin diseases and syphilis gives the technic of various local applications to the skin and especially the methods for the mercurial treatment of syphilis. The book is published in one volume of 979 pages and is well illustrated. To the physician who is acquainted with German, this volume cannot fail to be a valuable guide in the application of instruments and methods of treatment.

FIRST PRINCIPLES OF AGRICULTURE. By Emmet S. Goff, Late Professor of Horticulture, University of Wisconsin, and D. D. Mayne, Principal, School of Agriculture, St. Anthony Park, Minn. Introduction by Ex-Governor W. D. Hoard. Cloth. Price, 80 cents. Pp. 262, with illustrations. Chicago: American Book Co., 1910.

This is a "first aid" to the garden, but it also carries the lover of nature not a little way into scientific agriculture. It is a good book to have around the home and the farm. The subject of the hygiene of the dairy is not neglected. Valuable tables are appended and the book is well indexed, illustrated and subdivided, so that it is easy to consult.

Medicolegal

U. S. Supreme Court on Constitutionality of Practice Acts, Especially on Exceptions

The Supreme Court of the United States says, in Watson vs. State of Maryland (30 S. Ct. R., 644), that it is too well settled to require discussion at this day that the police power of the states extends to the regulation of certain trades and callings, particularly those which closely concern the public health. There is perhaps no profession more properly open to such regulation than that which embraces the practitioners of medicine. Dealing, as its followers do, with the lives and health of the people, and requiring for its successful practice general education and technical skill, as well as good character, it is obviously one of those vocations where the power of the state may be exerted to see that only qualified persons shall undertake its responsible and difficult duties. To this end many of the states of the Union have enacted statutes which require the practitioners of medicine to submit to an examination by a competent board of physicians and surgeons, and to receive duly authenticated certificates showing that they are deemed to possess the necessary qualifications of learning, skill and character essential to their calling. In Dent vs. West Virginia, 120 U. S., 114, the subject is elaborately considered, and this view affirmed by Mr. Justice Field, speaking for the court.

In such statutes there are often found exceptions in favor of those who have practiced their calling for a period of years. In the Dent case an exception was made in favor of practitioners of medicine who had continuously practiced their profession for ten years prior to a date shortly before the enactment of the law. Such exception proceeds on the theory that those who have acceptably followed the profession in the community for a period of years may be assumed to have the qualifications which others are required to manifest as a result of an examination before a board of medical experts. In the Maryland statute under consideration, the excepted class were those who had practiced before Jan. 1, 1898, being more than four years before the passage of the law, and who could show, presumably with a view to establishing that they were actively practicing at that time, that they had treated at least twelve persons within one year of that date.

Conceding the power of the legislature to make regulations of this character, and to exempt the experienced and accepted physicians from the requirements of an examination and certificate, the details of such legislation rest primarily within the discretion of the state legislature. It is the lawmaking body, and the federal courts can interfere only when fundamental rights guaranteed by the federal constitution are violated in the enactment of such statutes.

This subject has been so frequently and recently before this court as not to require an extended consideration. The right to regulate occupations was considered by this court at the present term in the case of Williams vs. Arkansas, 217 U. S., 79. It was therein held that regulations of a particular trade or business essential to the public health and safety were within the legislative capacity of the state in the exercise of its police power, and that unless such regulation are so unreasonable and extravagant as to interfere with property and personal rights of citizens, unnecessarily and arbitrarily, they are within the power of the state; and that the classification of the subjects of such legislation, so long as such classification has a reasonable basis, and is not merely arbitrary selection without real difference between the subjects included and those omitted from the law, does not deny to the citizen the equal protection of the laws. Applying these tests, the court sees nothing arbitrary or oppressive in the classification of physicians subject to the provisions of this statute, which excludes from its requirements those who have practiced prior to Jan. 1, 1898, and were able to show that they had treated at least twelve persons in a professional way within a year of that date.

But it was insisted that undue discrimination was shown and equal protection of the law denied in the exceptions of the statute ". . . . but nothing herein contained shall be construed to apply to gratuitous services, nor to any resident or assistant resident physicians or students at hospitals, in the discharge of their hospital or dispensary duties, or in the office of physicians, or to any physician or surgeon from another state, territory, or district in which he resides, when in actual consultation with a legal practitioner of this state, or to commissioned surgeons of the United States army or navy or Marine Hospital Service, or to chiropodists, or to midwives, or to masseurs or other manual manipulators, who use no other means; nor shall the provisions of this subtitle apply to physicians or surgeons residing on the borders of a neighboring state, and duly authorized under the laws thereof to practice medicine or surgery therein, whose practice extends into the limits of this state: Provided, that such practitioners shall not open an office or appoint places to meet their patients or receive calls within the limits of this state without complying with the provisions of this subtitle: Provided, that the same privileges be accorded to licensed physicians of this state: Provided, further, that nothing in this subtitle shall annul any of the provisions of article 32, title 'Dentistry,' nor shall apply to any registered graduate of dental surgery now practicing in the said state of Maryland, with the sign titles: Dentist, surgeon dentist, dental surgeon, or stomatologist."

The court will not take occasion to consider each of these exceptions. A reading of them makes it manifest that they are not without reason. Before a law of this kind can be declared violative of the Fourteenth Amendment as an unreasonable classification of the subjects of such legislation because of the omission of certain classes, the court must be able to say that there is "no fair reason for the law that would not require with equal force its extension to others whom it leaves untouched."

The stress of the argument as to these exceptions was put on the exemption of resident physicians, or assistant physicians, at hospitals, and students on hospital and dispensary duties. The selection of the exempted classes was within the legislative power, subject only to the restriction that it be not arbitrary or oppressive, and apply equally to all persons similarly situated. The court cannot say that these exceptions nullify the law. The reason for them may be that hospitals are very often the subject of state or municipal regulation and control, and employment in them may be by boards responsible to public authority under state law or municipal ordinance. Certainly the conduct of such institutions may be regulated by such laws or municipal regulations as might not reach the general practitioner of medicine. In any event, the court cannot say that these exceptions are so wholly arbitrary and have such slight relation to the objects to be attained by the law as to require the courts to strike them down as a denial of the equal protection of the law, within the meaning of the federal constitution.

Another point: The Court of Appeals of Maryland determined that Section 99 of Article 43 of the Maryland Code of 1904, under which the indictment in this case was prosecuted, making it a misdemeanor to attempt to practice medicine in the state of Maryland without registration, was not subject to the limitations of Section 80, relating to the sending of notice, etc. The offense, the Courts of Appeals held, was created solely by Section 99 in broad and general language, without exceptions or qualification, and that for conviction under that section it was not essential to prove the sending of the notice required by Section 80, which provides for the sending of notices to physicians practicing in the state without being legally registered. That construction of the Maryland statute is conclusive on this court (the Supreme Court of the United States). The accused had a trial before a court and jury under the statutes of Maryland, was proceeded against under the forms provided for by the laws of that state, and under a statute which the highest court of the state has held completely defined the offense without resorting to the necessity of notifying unregistered physicians before they became liable for the penalties of the act for practicing without registration. The contention that the conviction in this aspect was without due process of law under the federal constitution cannot be sustained.

Society Proceedings

MEDICAL SOCIETY OF NEW JERSEY

One Hundred and Forty-fourth Annual Meeting, held at Atlantic City, June 28-30, 1910

The officers elected were named in The Journal, July 23, p. 231.

Oration on Surgery: When and By Whom Should Surgery Be Advised?

Dr. John B. Deaver, Philadelphia: Unless a surgeon is very eminent, the most of his practice comes from his colleagues, and not from the outside public. At what point should physician and surgeon first meet to secure the best results? The physician should not delay until he himself has decided that surgery is necessary. Many physicians entertain an exaggerated notion of the risks of certain operations, and many operations are deferred to a less convenient season because of an ungrounded fear of the operation itself. The physician alone is not a safe judge of the time or the necessity for surgical treatment. His medical knowledge of the case is invaluable, and should be largely used in the decision. That decision, however, should be arrived at as the product of medical and surgical deliberation together. When this is done early in the progress of the case, the solution of the question that I have propounded will issue easily and naturally, as a result of mutual understanding and agreement; the best interests of the patient will be conserved, and precipitate surgery will be checked, and likewise eleventh-hour operations be relegated to the past.

Empyema

Dr. Irwin H. Hance, Lakewood: The oft-repeated maxim, "Evacuate pus, whenever found," enunciates the only treatment for empyema. Delay is always attended with the danger of general sepsis; and the postponed operation not only increases the chance of a more chronic suppuration, but also materially diminishes the chance of the compressed lung expanding thoroughly. The operation in all acute conditions, and almost all chronic ones, should be immediate exsection of one or more ribs. Even in chronic tuberculous cases, the presence of pus will add another toxemia to the one already present. If prolonged suppuration exists after the operation, the injection of bismuth paste should be resorted to. This does not, however, seem to be free from danger, since some cases of poisoning have been reported. What the future of serum therapy may be is at present unknown.

DISCUSSION

Dr. Frank D. Gray, Jersey City: I have been much interested in two probable improvements in the routine treatment of empyema. One is the use of bismuth paste, which I believe will help us out in many of these cases. The other improvement is the injection of two ounces of a 2 per cent. solution of formalin in glycerin, the theory being that this will sterilize the pleural fluid and eventually lead to its absorption. Rib-resection and thoracotomy are not serious operations, but they almost certainly convert a case of empyema into a more or less purulent septic condition. The entrance of air and the prolonged drainage are often disastrous. If a thoracotomy must be done, an improvement on the old rubber-tube drainage may be employed. There has recently been devised a short metal tube that merely goes through the chest wall, and is provided with flanges to prevent its slipping into the wound. It cannot be compressed between the ribs or between the expanding lung and the chest-wall.

Dr. Henry L. Coit, Newark: In the majority of cases of empyema, in children, at least, pus in the pleural cavity should be removed at once. The only way to do this is to make an opening large enough for the pus to run out.

Dr. John C. McCoy, Paterson: The poor results obtained in these cases are, in large measure, due to the fact that the openings are not free enough, and in order to obtain successful results in empyema, the cases must be followed very carefully and methodically after the operation. In eight or nine cases in which bismuth injections were used I have not found it particularly efficient. During the last two or three years, I have made it a cardinal principle, particularly in adults, to start the patient as early as possible with lung-gymnastics supplemented by the Bier hyperemic treatment over the wound, and I have found that the period of convalescence has been greatly shortened and the results have been far more satisfactory.

Organic Disease of the Nervous System

Dr. William M. Leszynsky, New York City: The advantages of the early diagnosis of organic disease of the nervous system, from both a clinical and sociologic standpoint, cannot be overestimated. For instance, the disastrous consequences of failure to recognize brain tumor are at times deplorable. The fundamental principles of neurology are not very difficult to attain. The primary cause of many avoidable errors in diagnosis is the neglect of the large majority of general practitioners to avail themselves of the opportunity to obtain these essential requirements, preliminary working knowledge of the general anatomy and physiology of the nervous system, a familiarity with modern clinical methods of examination, and the habit of accurate observation; hence, the unfortunate tendency that prevails to ascribe many apparently obscure symptoms to hysteria or neurasthenia, while organic disease is unmistakable. Excessive irritability of the nervous system is often a forerunner of general paresis or some developing psychosis. An examination limited to the nervous system is incomplete and inadequate, for many symptoms referable to the nervous system may result from disease of other organs; and, on the other hand, obtrusive symptoms confined to a single organ may be inexplicable to the specialist until some underlying organic nervous disease is discovered.

Acute Pyelitis in Children

Dr. George B. Philhower, Nutley: I believe that the female sex and the colon bacillus, plus some other factor, must work together in order to produce pyelitis. All of my patients were girls; all had colon bacilli in the urine; and five of the six either had had influenza or had been exposed to it. The treatment is the administration of citrate of potash in large doses, sufficient to neutralize the strongly acid urine; hexamethylenamin, combined equally with benzoate of soda every three hours, is even better than the citrate of potash in the cases in which the colon bacilli predominate. The treatment should not, however, be continued too long.

DISCUSSION

Dr. Henry L. Coit, Newark: It is important to recognize the fact that the innocent character of the colon bacillus may be changed into a type which is not only vicious, but virulent. I think that the bulk of the evidence is in favor of the urethra and bladder as the means of access of the pyogenic bacillus to the kidney.

Dr. D. J. Milton Miller, Atlantic City: I do not think that it is yet recognized by the profession that pyelitis in children is a common cause of unrecognized fever—probably the most common outside of otitis media. When a child has fever that cannot be accounted for, it is well to examine the urine. Pyelitis is a very common cause of extreme anemia in children. As to the etiology, I have no doubt that the influenza bacillus is in a measure the cause of the disease.

Dr. J. Finley Bell, Englewood: I do not believe that it is possible to make a diagnosis of the bacterial contents of the urine by a simple microscopic examination. Cultures must be made. The urine for this purpose must in all cases be taken by catheterization. I doubt that the *Bacillus coli* is the cause of pyelitis in children, although it is present in most of the cases. In most of my cases, recognizable chills were not present in young children, but the temperature curve in these cases is characteristic. Anemia is rather frequent in long-continued cases. If the patients are seen early, they will get well promptly under hexamethylenamin.

Dr. Frank W. Pinneo, Newark: If a urinalysis were made more frequently in children with disease of a febrile character, much valuable information might be obtained. It is quite necessary to get the urine by catheter. The differentiation between cystitis and pyelitis is not easily made without the aid of the microscope; but perhaps cystitis apart from pyelitis does not occur in children as in adults.

A Plea for a Higher Standard of Medical Education

Dr. Benjamin A. Waddington, Salem: The spirit of the age is one of progression, stimulated in all the walks of life by the keener competition. This means that he who would be even measurably successful in the struggle for existence must be armed with all the possible advantages in entering the lists for preferment in his chosen vocation. All the walks of life now demand more and more of the man; and this demand will go forward with herculean bounds. The wisdom of to-day will be the foolishness of to-morrow; the high standard of the now will be the minor height of the then. It is to be regretted that the medical profession does not set a standard for the admission to its body at the very highest possible notch, and then see that those who would be of us measure rightly to gauge. Medical men seem to lack the grit to enforce these views, and to be afraid to speak out manfully and strike from the shoulder at what detracts or will detract from their high calling. The reason that the physician does not occupy the elevated plane in the esteem of the community that he once did is that he does not compel a high respect for his profession from the laity by the prevention of its being attained by incompetents.

The Broader Aspects of the Science of Medicine

Dr. W. Gilman Thompson, New York City: During the past two or three years, very distinguished advancement has been made in many of the broader aspects of medical science. Never before have our national and state societies been so efficiently organized and so productive of the highest scientific results. The public, however, is slow to appreciate its debt to medical science, and continues to follow strange gods. There is a misconception on the part of the laymen as to specialism. The public have been taught to regard the human organism as a sort of checker-board, each division requiring an independent specialist to understand it. This lamentable attitude of mind leads to serious, if not fatal, blunders. A factor in the depreciation of medical worth may be found in the estimate which many physicians place on themselves by asking so little for their services; another lies in the lack of firmness on the part of many physicians in denouncing the wiles of the charlatan or the evil that lurks in the nostrum. Still another method of alienation of patients exists in the modern habit of permitting the use of "patent" or proprietary remedies. A medical society should occupy the position of a clearing-house or court of appeals in all the broader aspects of medical science, so far as they concern the general public interests; and the public would soon become accustomed to seek its advice and trust its decisions.

The Ethical Aspect of Expert Testimony in Relation to the Plea of Insanity as a Defense to an Indictment for Crime

Dr. Carlos F. MacDonald, New York City: The present method of presenting expert testimony is by no means perfect, but it is far better and more practical than many of the visionary schemes that have been brought forward from time to time by certain alienists. The most practical solution of the difficulty would be to make statutory provision for the appointment by the court of one to three experts, when occasion arises, the law to provide that every physician of repute in the particular branch of the medical science to which the question of expert opinion may relate shall be appointed; these experts to have full and free access to all the evidence in the case, as well as to the defendant, for the purpose of examination; and then to submit to the court for transmission to the jury a written report setting forth therefrom the evidence and the evidence on which such conclusions were based; the cross-examination of the experts to be restricted to the matters embraced within their direct statement of facts and opinions, and the compensation of the experts to be fixed by the courts. If a physician is to appear as an expert witness, he should keep away from the counsel while in court, and should take no part in the conduct of the case which would put him in an attitude of assistant to the counsel or of a biased or interested party. When insanity is pleaded as a defense, the question of insanity should be kept out of the case entirely during the trial; the jury should pass only on the question of the guilt or innocence of the accused, irrespective of his mental condition; then, if the defendant is convicted, let the court appoint a commission of competent alienists to determine his mental condition. If this were done, it is probable that much of the conflict of opinion in our law courts respecting the question of responsibility in criminal cases where insanity is offered as a defense, would disappear.

Stomach Surgery

DR. EDWARD STAEHLIN, Newark: I wish to make a plea for more frequent and earlier exploratory operations—not exploratory operations made as a last resort, simply to close the wound again with regret for what might have been done earlier; but exploratory operations for the purpose of making a diagnosis and then proceeding in accordance with what is found. Second, let me make a plea for early operations in the particular class of cases in which the diagnosis is made and in which the indication for operation is clear. The operative procedure instituted in all my cases, when it was called for, was the posterior gastrojejunostomy of the no-loop or short-loop variety; and it has given absolute satisfaction. I employ a different procedure from the one invariably recommended and illustrated in the application of the forceps. Instead of having the blades and handles in apposition, I invert them. The blades are in apposition, but the handles are at diagonal opposites. Thus the assistant can control them better. It is not tiresome to hold them; and when he shifts his hands a little there is not the leverage that is found when the forceps are held by the handles.

Stenosis of the Respiratory Vestibule

DR. EMERY MARVEL, Atlantic City: I am convinced that vestibular abnormalities have been causal factors in producing many permanent cripples and a large number of premature deaths; and the same factors encourage the implantation of the contagious infections. The prevention of disease is the watchword of the day, and the elimination of adenoids and offending tonsils frees the victim from their mechanical handicap and removes their influence in the increased susceptibility to bacterial invasion. Complete extirpation, nothing less, is the remedy.

The Relation of the Public to and the Obligation of the Physician in the Spread of Communicable Disease

DR. PHILIP MARVEL, Atlantic City: The attitude of the general public is known to be strongly antagonistic to the establishment of prohibitory restrictions that insure protection against certain communicable diseases. The most important factors involved in promoting the influences that are responsible for this situation are the commercial interests, which too often disregard all the rights and privileges of others; the ignorance of the public concerning the cause and development of disease, and the laws of hygiene and sanitary science; and the indifference and jealousy of most of the profession, whose lack of a proper appreciation of the scope of the work or whose personal indifference to its source prevent them from a hearty cooperation with the prosecution of the great old propaganda. Once the public is sufficiently aroused to comprehend and appreciate its own interest in this great question, little will be required to assist us in the prosecution of this work. At no time in the history of civilization have there been so many proper and well-directed educational measures among professional state and national crafts for the uplifting of the people as exist to-day. Epidemiologic studies of the various communicable diseases have added to our knowledge of the spread of disease. It is my firm belief that these infections will continue with little variation until the public are properly awakened and educated in reference to individual protection.

DISCUSSION

DR. ALEXANDER MARCY, JR., Riverton: That there is indifference on the part of the people toward such measures is self-evident; but this indifference is due to ignorance, and one of the highest duties of the medical profession is to educate the public along these lines. That the national government owes something to the people in this respect, is conceded by all fair-minded people; therefore, the efforts that are being made to create a national department of health should have the hearty support of every medical man. The state and municipality also owe something to the people along these lines.

DR. W. BLAIR STEWART, Atlantic City: One should remember that the public can be led, but never driven. The local medical societies should devote less time to politics and more to studying conditions at home and the betterment of town and people. Local boards of health, usually composed of laymen, should cooperate with the medical profession. A little time and patience would soon create a better understanding and an improved attitude toward each other. More time and care should be devoted by teachers, physicians and nurses to the betterment of the condition of children in the public schools. The good influence of pure-food laws is now apparent. The Medical Society of New Jersey should exert her strongest influence in favor of the movement to establish a national bureau of health.

DR. THEODORE F. LEVINGOOD, Elizabeth: It would be well for the county societies, which come into most intimate touch with the individual physicians, who reach the people, to take up this work of prevention, and teach the people that they must have certain laws along this line enacted. When the people have once been instructed, the medical profession will have no further trouble. The people will send suitable men to the legislature and the whole problem will be solved.

DR. HENRY CHAVANNE, Salem: Conditions in cities at the present day are such as to call for the greatest condemnation. They are hot-beds of disease. It is our duty to see that the councilmen and legislators are men who will make good laws on this subject, and the executive officers men who will execute these laws.

Organization in Medicine

DR. WILLIAM H. WELCH, Baltimore, Md.: There is nothing more remarkable in the development of organized medicine in recent years than the growth of our state societies, due largely to the stimulus given by the improved organization of the American Medical Association. The very best thing that has come out of this plan of organization is the growth of the county society, which comes into closest contact with the individual physician. All our efforts should be directed toward strengthening the county societies. We do not represent any school of medicine, and we have no principles that we regard as universally applicable to the explanation or the treatment of disease. Anyone who attempts to practice the healing art should have some sort of knowledge of the healthy and the diseased body. So long as curative medicine is so far from being able to cure large numbers of diseases, the so-called healing cults will doubtless thrive.

Dr. Marvel has called attention to the fact that it requires cooperation of the public with the medical profession, in order to obtain important results in public hygiene. In this field of preventive medicine we have no rivals. Our profession is the only one that interests itself in preventive medicine. There is no school of preventive medicine.

Medical Expert Witness

DR. WILLIAM H. HICKS, Newark: Honest and conscientious effort to reach a true diagnosis in cases of alleged insanity is the rule and not the exception; and disagreement in some cases is, in the present imperfect state of knowledge on the subject, inevitable under any system. Until the conflicting systems of psychology and the divers schools of psychiatry shall have been merged into a more uniform and a more exact science of the mind, it is folly to expect agreement in all cases of mental disorder. The alienist of courage and honesty will dare to do his duty in testifying to a condition of insanity; for society's protection against these homicides can be secured, not by executing the insane, but by practical, humane and scientific methods of prevention. Dangerous lunatics should not be allowed at large; but to suggest that a man be tried, convicted and sentenced, when he is incapable of preparing a defense or of understanding the nature of the legal proceedings, is monstrous and worthy of the dark ages.

DISCUSSION

Dr. Edward J. Ill, Newark: The alienist has suffered most as the result of the severe criticism that the profession has received at the hands of the laity, and with right, for they are the ones that have sinned the most. The work of the alienist is the most difficult and the most unsatisfactory in the whole line of medical research, and this is just the reason that the alienist has been as a toy in the hands of the shrewd lawyer. The alienist who wishes to keep his name free from suspicion should refuse to testify as an expert so long as the present anomalous conditions exist. The state cannot demand that he jeopardize his good name. In these circumstances the court, the bar and the laity will soon come to their senses.

Dr. Edward E. Worl, Newark: While the general practitioner does not know the processes and the degree of insanity, he does know when a man is insane; yet if he testifies regarding this point, he is immediately overwhelmed with some expert witness who has a high standing in nervous diseases. The determination of insanity is exceedingly difficult, unless one knows the previous life and peculiarities of the patient.

Dr. Claudius R. P. Fisher, Bound Brook: In most of these cases, there is room for honest differences of opinion. It is the dishonest differences of opinion with which we find fault. I think, however, that it comes with a very bad grace from the legal profession to say that doctors never agree, when the Supreme Court of the United States, in case after case, hands down two different opinions.

Dr. Walter B. Johnson, Paterson: Any doctor who will study the side of the case of the lawyer who employs him, is apt to be honestly biased in favor of that side. While there often seems to the jury and laity to be a difference of opinion among medical experts, a careful analysis of these opinions by a board of physicians might bring out the fact that the opinions were very close together.

The Relation of Water to Malaria

Dr. John Walters, Wharton: Malaria prevailed in Wharton until 1880, when two mining companies drove a tunnel through the center of the town, in order to drain off what they termed the surface water. This suddenly drained all the wells and springs in the town, by taking the water for about 80 feet below the surface. In order to obtain water for domestic purposes, cisterns were now constructed; and within a short time malaria had almost entirely died out. It has not reappeared, although the mosquitoes in season are as vigorous as ever. The facts cited have convinced me that malaria is contracted by drinking water from springs and wells into which drainage from swamps and marshes carries the larvæ from the breeding places of mosquitoes, and not from the sting of the insect. In regard to treatment with quinin, this drug is easily dissolved in the normal stomach; but in malaria, the stomach frequently loses its acidity. Therefore, it is useless to give this drug, unless it is first rendered soluble and ready for absorption on entering the stomach. The most desirable way in which to do this is to add quinin to tincture of chlorid of iron. The iron dissolves the quinin and improves the depleted blood corpuscles, while the mixture acts directly on the poison, correcting the stomach, and abating the symptoms with surprising rapidity.

DISCUSSION

Dr. Frank J. Keller, Paterson: I should like to hear some expression of opinion regarding the prevention of malaria by planting eucalyptus trees and other forms of vegetation inimical to the growth of the species of mosquito that propagates malaria. As to the method of introducing quinin into the stomach, I think that is merely a hobby.

Dr. Edward B. Rogers, Collingswood: The good results obtained by Dr. Walters were due to the fact that the tincture of iron contains a fair amount of hydrochloric acid. While the iron helps to overcome the anemia, any other form of it would give that result; but the hydrochloric acid helps to produce absorption.

Dr. Linn Emerson, Orange: The attacks of malaria that I witnessed in soldiers returning from the Spanish-American War made me feel that what I had seen before was not malaria at all. The men simply melted away, as they would in a profound infection with typhoid. The use of quinin by the ordinary method in these cases had no effect whatever; but when 30 grains of it were given at one dose, about an hour before the onset of the chill, together with 30 minims of dilute nitrohydrochloric acid, the dose completely stopped the chill.

THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA

Fifty-seventh Annual Meeting, held at Wrightsville Beach, N. C., June 21-23, 1910

Under the Presidency of Dr. Edward J. Wood, Wilmington

A preliminary report of this meeting was published in The Journal, July 16, p. 227.

The Tonsil

Dr. Joseph White, Richmond, Va.: The tonsil is a physiologic part of the organism because it is always found in the fetus and in children under six or eight years of age, after which it gradually disappears by atrophy in from 85 to 90 per cent. of persons. In consequence it should be let alone at that time of life when it evidently has some function to perform, unless it shows evidences of disease or causes trouble. Occasionally at this period of life, and frequently in later years among those who do not lose the tonsil, it becomes a menace to the organism as a focus of infection, because of certain pathologic changes that present themselves.

That the operation of removal of tonsils is over-done many will admit, for there is no more reason for removing every tonsil than for removing every appendix. Unless diseased or giving trouble directly traceable to the tonsil, it should be let alone, especially under six or eight years of age. When the operation is clearly indicated, however, the best method of doing so is, logically, a radical removal in its capsule if practicable.

Fracture of the Astragalus, with Forward Dislocation of the Foot

Dr. R. L. Gibbon, Charlotte, N. C.: I have seen two cases, occurring in substantially the same way—by a fall from the top of a freight car to the ground, the patient alighting on the feet. In the first case there was a dislocation of the astragalus forward, with a fracture of the body of the bone. This case was irreducible by ordinary means, and three weeks after the injury I operated and removed the loose fragment. The patient, some six months after the operation, has very good use of his limb. In the second case, which is quite recent, the *x*-ray showed a fracture of the astragalus through the anterior portion of the bone near its articulation with the scaphoid and cuboid, with a slight displacement of the fragment upward. This patient walks with a slight limp and suffers no pain, except when bearing his weight on his toes or in over-extension of the foot on the leg.

Cure of a Case of Actinomycosis

Dr. James M. Parrott, Kinston, N. C.: This patient, a woman, had a negative history. In 1906 she developed a lump about the size of a walnut near the knee-joint. This lump ultimately broke down and discharged a thick, odorless serum, in which floated innumerable pin-head yellow particles. Other lumps of the same character followed, which, on breaking down, or being opened, had the same character of discharge. There was no rise of temperature, so far as the patient was aware, at any time. There was no evidence that the patient had been exposed in any unusual way to cattle, horses, etc. Neither she nor her people owned any cattle, nor was there any "lumpy-jawed" stock in her vicinity, and she gave no history of contact with any person similarly affected.

On admission to the hospital the masses were extensively removed and the wounds were dressed antiseptically. The patient was discharged in September, 1907, apparently improved but not well. She returned at various times subsequent to this, when the ulcerations were curetted and every form of treatment and application was tried, in spite of which her leg gradually and persistently grew worse. Pure iodoform was used frequently.

Her family and her doctor were anxious to have the leg amputated, but this was not done, as her general health had not suffered particularly. January 26, 1910, the ulcers were curetted once more and packed with iodoform. A violent reaction followed, the temperature ranging as high as 105.5 F.; the skin became red and swollen, red streaks appeared on the leg, and in spite of the fact that the curetting was done in a most careful manner, we were reluctantly compelled to diagnose the condition as one of erysipelas. After running a severe course the infection subsided, and it was found that the condition of the leg was decidedly improved, and February 14, the actinomycosis was almost well, and when last seen on February 17, she was entirely cured.

Status of Hookworm Disease in North Carolina

Dr. John A. Ferrel, Kenansville, N. C.: The factors favoring the prevalence of hook-worm disease are found in North Carolina. The climate affords the warmth and moisture necessary. In every section soil suited for the existence of the infecting larvae is found. It either holds the moisture near the surface, or is sufficiently porous to allow them to bury themselves deep enough to be beyond the drying action of the sun. Except where sewer systems are found no adequate provision is made to prevent soil pollution. The distribution of the disease is general. Reports from doctors indicate that approximately five thousand cases have already been treated. It is known to prevail in eighty-nine of the ninety-eight counties in the state. In the counties in which so far no cases have been found, no thorough investigations have been made. The examination of six hundred college students representing all sections of the state showed more than one-third of them infected in varying degrees with the disease. The percentage of infection is somewhat higher in the tidewater section than in the mountain section. The disease exists alike in the families of landlords and tenants, but among the latter is more prevalent and the symptoms more severe. "Ground-itch" is the usual manifestation of occurring infection. The barefooted age and the ten years following it or the fifth to twenty-fifth years show highest percentage of infection, the number of parasites reaching the maximum about the fourteenth or sixteenth year.

Intestinal Protozoa in North Carolina

Dr. William Allan, Charlotte, N. C.: Amebiasis is endemic and in 1908 caused more deaths than typhoid; as an indirect cause of death it ranks next to the hook-worm. In a series of 70 cases I have had 4 liver abscesses, and 50 per cent. of uncomplicated cases showed an eosinophilia of over 5 per cent. As amebæ and monads both produce alkaline stools, and as more cases of amebiasis are accompanied by monads than cases of monads by amebæ, it seems that the presence of these monads prepares the way for the implantation of the ameba. *Lamblia intestinalis* has recently been reported from North Carolina, and when *Balantidium coli* is reported, the state may claim as native all of the more important intestinal protozoa parasitic in man.

The Need of New Laws for the Prevention of Typhoid in North Carolina

Dr. A. A. Kent, Lenoir, N. C.: Fully 85 per cent of all typhoid is preventable, and I suggest that the next legislature be asked to enact laws covering the following points: 1. That any attending physician, when a diagnosis of typhoid fever is made, shall make a careful sanitary inspection of the premises, including the adjacent premises where necessary, and that he have made a chemical and bacteriologic examination of the drinking water if it be from a well or spring, in order to find the original source of infection. 2. That printed rules of instruction shall be furnished by the State Board of Health to the county superintendent of health; and by the county superintendent of health to every licensed or registered doctor in the county; and that said rules be furnished by the attending physician to the householder and patient; that the attending physician shall be required to state in his monthly report to the county superintendent, whether or not he has used said printed instructions with his typhoid cases; and that the county superintendent in his monthly report to the secretary of the state board, shall state what doctors in his county, if any, fail to use said instructions. 3. That the state legislature shall appropriate one thousand dollars annually, or such sum as may be necessary, for the use of the State Board of Health, in order to meet the additional expenses of this work. 4. That said printed rules of instructions shall be a part of the state law, with a penalty on both physician and householder for any failure to carry out said instructions. 5. That said instructions shall direct: (a) How to find and abate the original focus of infection. (b) Compulsory screening of the patient, dining room and kitchen of the house against house flies. (c) Compulsory disinfection of all excreta, unused food, linen, etc., by the householder while the patient is confined and compulsory disinfection of dejecta by patient after out of bed until found free from bacilli—such examination to be provided for by law. (d) Compulsory abatement of breeding-place for flies, especially in towns. (e) Prevention of stream pollution with sewage from municipalities by the use of septic tanks. These rules of instruction—in fact, the entire law—should be so clear and plain that there could be no quibbling or speculation as to its meaning and intent.

The common practice of stream pollution by emptying the sewage of our towns and cities into small streams is a menace to the public health of the state. It is clearly the taking of the fundamental rights of one part of the citizens of a community for the benefit of another part. It is the right of every riparian land-owner to have the water of a stream flow to him undiminished and unchanged. It is more than probable that with the rapid growth of our towns and cities, the installation of modern water works and sewer systems, we are laying the foundation for widespread dissemination of typhoid fever throughout the country. If such be the case, it would be better for the state to enact laws requiring of the municipalities the building and manipulating of septic tanks for the treatment of sewage before disposal. This is the only scientific method, the only just method, and in the end it may be the most economic method. This is becoming a very serious question with the land-owners on many of our streams. It is a question that must be settled by our health authorities, and should be settled on broad lines, looking far into the future.

Gynecologic Operations in the Aged

Dr. J. E. Stokes, Salisbury, N. C.: The term "aged" is arbitrarily applied to patients of 70 years of age or over. Five patients operated on by me made good recoveries after having refused operation for a number of years previously, on account of the fear of being too old. This is a frequent occurrence, so that statistics should be valuable in demonstrating to patients thus wavering, how groundless their fears may be relative to age alone in deciding against an indicated operation. The ages of the patients range from 70 years up to 86 years of age. The symptoms had been borne for more or less prolonged periods, in one case for over twenty years, even after a favorable prognosis for an operation had been offered in the beginning. Major gynecologic operations in the aged present no essential differences from those operations in younger patients. The indications and contra-indications for operation are essentially the same.

Abuse of the Clinical Laboratory from the Standpoint of the Laboratory-Worker

Dr. Paul H. Ringer, Asheville, N. C.: The laboratory is for the reporting of facts and conditions—not, save in well-defined instances, for the making of diagnoses. Too many physicians wish the latter from laboratory examinations. Specimens are sent to the laboratory in insufficient quantity for satisfactory examination, and often so long a time is required in transit and such faulty methods of packing are resorted to that by the time the specimen reaches the laboratory, decomposition has set in and it is worthless. Many insist on too detailed an examination. Text-books on clinical pathology give such a multitude of substances that can be sought (in the urine for instance), and such an infinite number of tests, that the most practical element of the examination is lost sight of. Physicians do not supervise their own laboratory work sufficiently. They have the work done at a distance from home and thus lose, in a measure, the most important relationship between the laboratory findings and the clinical picture as manifested in the patient. Every physician for an outlay of from $5 to $10 can obtain laboratory equipment (exclusive of microscope) with which he can do ordinary uranalysis, stain sputum for tubercle bacilli and pus for gonococci, examine blood for malaria, stools for eggs of parasites, stomach contents for their various ingredients. None of these tests are difficult, and all that is required is practice. If the physician cannot do his own laboratory work he should have it done where he can be within call, so that any noteworthy finding can be properly interpreted. Interpretation is of as great importance as the proper technic of laboratory work. Faulty interpretation will almost invariably work harm. Above all, the physician should never forget that he is treating a human being, one in whom nothing is exact and nothing absolute, and should not allow the results of the laboratory examination to cloud or warp his judgment based on the clinical findings at the bedside. The laboratory is an aid and a very valuable one —in some cases its very verdict may be accepted as the court of last resort—but in the main it is simply an adjuvant, and will never take the place of careful bedside observation, study and examination.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

June 21

1 The Etiology and Treatment of the Psychoneuroses. J. J. Putnam, Boston.
2 *The Etiology of Actinomycosis: Experimental Production of Actinomycosis in Guinea-Pigs Inoculated with the Contents of Carious Teeth. F. T. Lord, Boston.
3 The Diagnosis of Stone in the Pelvic Portion of the Ureter. H. Cabot and W. J. Dodd, Boston.
4 Pregnancy, Nursing and the Care of Young Babies: An Experiment in Preventive Medicine. W. L. Putnam, Boston.
5 *Lesions of the Major Trunk Viscera in Epileptics. A. E. Taft, *Palmer*, Mass.
6 Suture of the Faucial Pillars for Hemorrhage Following Tonsillectomy. R. H. Gilpatrick, Boston.

2. **Etiology of Actinomycosis.**—Organisms having the morphology and staining reaction of actinomyces have been constantly found by Lord in smear preparations (11 cases) and in serial sections (5 cases) of the contents of carious teeth from individuals without actinomycosis. They are present in such numbers as to suggest that they play a fundamental part in dental caries. Following the intra-peritoneal inoculation of guinea-pigs with the contents of carious teeth, omental tumors, histologically identical with actinomycosis tissue and containing typical club-bearing actinomyces granules, have been produced in 3 (60 per cent.) of 5 animals. The constancy with which organisms having the morphology and staining reaction of actinomyces are present in carious teeth Lord believes suggests that under certain conditions persons with carious teeth are liable to develop actinomycosis. Lack of free drainage of a tooth cavity, whether arising spontaneously or as the result of filling an incompletely sterilized tooth, may be regarded as favorable to the production of the disease about the jaws or neck. In such cases the root canal of the tooth is the channel of infection. Organisms derived from the teeth may also be implanted in neighboring tissues or find lodgment in more remote parts of the body by way of the respiratory tract or the alimentary canal. Local injury of the tissue may be regarded as an important predisposing factor.

Although actinomycosis is doubtless more common than is generally believed, it cannot be regarded as of frequent occurrence. In explanation of its infrequency compared with the numberless chances for infection, it may be suggested that invasion of the tissues by actinomyces and associated bacteria does not always give rise to actinomycosis. In two negative inoculation experiments with the contents of carious teeth, organisms resembling actinomyces were present in smears from the extracted contents and it may be assumed that actinomyces were also present in the injected material, but failed to multiply in the body of the animal. Here, as in other infections, the varying numbers and vitality of the seed and fertility of the soil are of importance. It is probable that only in a small proportion of cases in which implantation of the organism occurs does it actually take root in the tissue and lead to progressive lesions, with club-bearing actinomyces granules.

5. **Lesions of Major Trunk Viscera in Epileptics.**—Taft examined, histologically, the viscera of 50 epileptics with a view to elucidating a possible etiologic relationship between these various conditions. The following summary of his findings is given without any comment:

Heart: 32 (64 per cent.) cases negative, 18 (36 per cent.) cases show lesions, 13 (26 per cent.) cases chronic fibrous myocarditis, 1 (2 per cent.) case multiple abscesses with pericarditis, 1 (2 per cent.) case endocarditis, 1 (2 per cent.) case brown atrophy, 1 (2 per cent.) case hypertrophy of muscle cells, 1 (2 per cent.) case acute fibrous pericarditis. (With one exception the subject was over 50 years of age.) *Lung:* 7 (14 per cent.) cases negative, 43 (86 per cent.) cases show lesions, 9 (18 per cent.) cases active tuberculosis, 5 (10 per cent.) cases healed tuberculosis or tuberculous lymph nodes, 21 (42 per cent.) cases acute pneumonia, 10 (20 per cent.) cases edema, 4 (8 per cent.) cases bronchiectatic abscess, 4 (8 per cent.) cases chronic bronchitis, chronic pleuritis, infarct and slight induration. *Spleen:* 2 (4 per cent.) cases negative, 48 (96 per cent.) cases show lesions, 3 (6 per cent.) cases tuberculosis, 62 (31 per cent.) cases hyaline arteries, 12 (24 per cent.) cases arteriosclerosis, 16 (32 per cent.) cases increase of trabecular tissue, 21 (42 per cent.) cases follicles inactive or only slight activity, 34 (68 per cent.) with varying degrees of congestion, 9 (18 per cent.) cases of small hemorrhages, 8 (16 per cent.) cases secondary acute splenitis, usually with acute pneumonia, 5 (10 per cent.) cases hyaline follicles, 4 (8 per cent.) cases phagocytic cells in follicles. *Pancreas:* 43 (86 per cent.) cases negative, 7 (14 per cent.) cases show lesions, 2 (4 per cent.) cases fat vacuolation, 3 (6 per cent.) cases chronic fibrous pancreatitis, 1 (2 per cent.) case interstitial hemorrhage, 1 (2 per cent.) case lymphoid infiltration. *Liver:* 4 (8 per cent.) cases negative, 46 (92 per cent.) cases show lesions, 1 (2 per cent.) case carcinoma, 20 (40 per cent.) cases fat vacuolation, 12 (24 per cent.) cases central necrosis, 4 (8 per cent.) cases focal necrosis, 26 (52 per cent.) cases central congestion, 10 (2? per cent.) cases diffuse congestion, 5 (10 per cent.) cases increase in periportal tissue, 4 (8 per cent.) cases lymphoid infiltration of periportal tissue, 1 (2 per cent.) case multiple abscesses, 1 (2 per cent.) case conglomerate tubercles. *Kidney:* 8 (16 per cent.) cases negative, 42 (84 per cent.) cases show lesions, 10 (20 per cent.) cases chronic interstitial nephritis, 17 (34 per cent.) cases chronic diffuse nephritis, 31 (62 per cent.) cases areteriosclerosis, 13 (26 per cent.) cases acute parenchymatous nephritis, 1 (2 per cent.) case multiple abscesses, 1 (2 per cent.) case tuberculosis.

Medical Record, New York

July 23

7 *The Ethical Aspects of Expert Testimony in Relation to the Plea of Insanity as a Defense to an Indictment for Crime. C. F. MacDonald, New York.
8 *The Anomalies of Ocular Dominance. G. M. Gould and A. C. Dorand, Ithaca.
9 The Noguchi Method of Serodiagnosis of Syphilis: Its Practical Value. D. M. O. Robinson, New York.
10 Deaf-mutism. E. W. Scripture, New York.
11 The Pathology of Joint Tuberculosis and Practical Deductions Therefrom. L. W. Ely, Denver.
12 Lupus—Its Treatment by the Roentgen Rays. C. L. Leonard, Philadelphia.
13 Obesity: Its Relation to Other Diseases and Its Significance. I. B. Kronenberg, Pittsburg.

7. Abstracted in Report of the New Jersey State Medical Society, this issue.

8. **Anomalies of Ocular Dominance.**—From histories obtained of perhaps 100 patients, the authors conclude that perhaps 3 per cent. of eyestrain sufferers are troubled with the disorders consequent on the anomalies of ocular dominance. Possibly 8 per cent. of little children are at first left-handed. Of these, in about 75 per cent., there has been a mistaken and harmful attempt on the part of the parents, teachers and school-fellows to make the child write, sew or hold a knife with the dextral hand. In the larger portion of this class the attempt has been harmfully, partially and awkwardly successful. In a smaller number of cases this, despite all punishment and suffering, has been unsuccessful, and the child has luckily remained normally left-handed.

Except in so far as it has influenced the primary shapes and sizes of the eyeballs, heredity has no influence in the production of right-handedness and left-handedness. Right-handedness and left-handedness arise in the first year or two of life, and are caused by the dominance respectively of the right or of the left eye. Dominance is dictated and established by the better vision of the right or of the left eye, in the great majority of cases, by the less incapacitating ametropia existing at the time of the beginning of the habits of willed arm-and-hand actions. In relatively 92 per cent. of infants the right eye is the better or easier seeing eye, and in 8 per cent. it is the left.

The attempt to change the establishing or established habit of left-handedness in a child inevitably produces disease of many kinds, awkwardness, liability to accidents, incapacities, and it handicaps in all the subsequent life. The difficulty and partial or complete unsuccess of the attempt shows that something far more than mere "handedness" or handiness, is at work to prevent. This something is the preceding and causal dominance of a single eye. Reversals of dominance in a relatively small number of individuals, as life goes on, are inevitable. A frequent cause of reversals of dominance is the changing of the errors of refraction during youth, so that the visual acuteness of the hitherto dominant eye becomes relatively so poor and unreliable that dominancy must be transferred to the other. These refractional changes account for most of the anomalies of dominance. Other agencies may affect the vision of the dominant eye and transfer its dominance to the other eye, such as diseases and injuries.

New York Medical Journal

July 23

14 The Bone Called "Luz" [illegible] shington, D. C.
15 Clinical Value of the [illegible] in the Diagnosis of Syphilis. W. Lit[illegible]
16 The Noguchi Reaction [illegible] M. Phelps, Washington, D. C.
17 *The Tuberculin Treatment of Pulmonary Tuberculosis in Office and Dispensary Practice. J. A. Miller, New York.
18* Vaccine Therapy in Tuberculosis. H. M. King, Loomis, N. Y.
19 The Lacrimal Duct as a Portal of Infection in Blennorrhea Neonatorum, and Its [illegible] W. L. Phillips, Buffalo.
20 The Status of the [illegible] ation in Life Insurance Examination [illegible] ladelphia.
21 The Manual Treatm[illegible] Sympathetic. E. F. Cyrian, London, England.

17. **Tuberculin in Tuberculosis.**—Out of 212 cases treated with tuberculin in office and dispensary practice by Miller, only 70 patients continued under treatment 90 days or more. In these the following results were obtained:

Apparently cured, 16, 22.8 per cent.; arrested, 20, 28.6 per cent.; improved, 16, 22.8 per cent.; progressive, 18, 25.7 per cent.

Present Condition: Well in active life, 28.40 per cent.; feel well, still under treatment, 13, 18.5 per cent.; total, 58.5 per cent.; not doing well, 6, 8.5 per cent.; dead, 10, 14.3 per cent.; untraced, 13, 18.5 per cent.

Stage of Disease: Incipient, 9, 12.8 per cent.; moderately advanced, 42, 60 per cent.; far advanced, 19, 27.2 per cent.; 87.2 per cent.

Duration of Treatment: Five months at least, 49; nine months at least, 15; twelve months at least, 6. Patients working while under treatment, 8.

Particular attention is called by Miller to the fact that although 87.2 per cent. were advanced or far-advanced cases, 51.4 per cent. were apparently cured or arrested. That eight patients worked regularly during the course of treatment, and that although these patients here reported have been treated over a period of five years, yet at the present time 58.5 per cent. are known to be well and 40 per cent. having finished their treatment, are now well and leading active lives.

18. **Vaccine Therapy in Tuberculosis.**—At the Loomis Sanatorium two classes of patients are advised to take tuberculin, viz.: 1. The class of incipient cases which have been under observation for a sufficiently long time to justify the belief that they are not progressive and are without fever or other evidences of a marked general toxemia; and 2, that class of more advanced cases, presenting evidence of "arrested" activity, the patients having been for some time without material change in their condition—either local or constitutional—but who still have cough and a bacillary sputum.

In a few instances King has given tuberculin, in extremely minute doses, in progressive febrile cases—more with a view of gratifying the whim of a very sick patient than with any expectation of success in treatment—and the results in such cases have always been negative. The one demonstrable and constant result of the suitable use of tuberculin, King says, is tuberculin immunity. Realizing that tuberculin immunity is not immunity to tuberculosis, he nevertheless has come to feel that something more is at the same time accomplished in most cases during a well-borne course of tuberculin, and that additional protection is afforded the patient against his disease—both in the form of present resistance and against future tendency to relapse. He endeavored for a long time to utilize the opsonic index as a guide to tuberculin administration, but abandoned the method when he became convinced that it was impracticable for this purpose.

Northwestern Lancet, Minneapolis

July 1

22 Chronic Inflammation of the Prostate. F. R. Wright, Minneapolis.
23 What Can We Do to Help in the Making and Enforcing of Sanitary Laws in Minnesota? E. H. Bayley, Lake City, Minn.
24 An Aid to the Proper Repair of Recent Lacerations of the Perineum. A. W. Abbott, Minneapolis.
25 The Problem of Tuberculosis. E. L. Tuohy, Duluth, Minn.

Virginia Medical Semi-Monthly, Richmond

July 8

26 An Appreciation of Louis Pasteur. H. Byrd, Jacksonville, Fla.
27 Some Phases of Endocarditis. A. G. Brown, Richmond.
28 An Attempt to Classify Our Knowledge of Suggestion. W. P. Carr, Washington.

American Journal of Surgery, New York

July

29 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
30 The Treatment of Bladder Tumors by the High Frequency Current. E. L. Keyes, New York.
31 Urinary Calculi—Casuistic Memoranda. W. M. Brickner, New York.
32 Surgery of Posterior Urethral and Prostatic Abscess and Their Resulting Fistulæ. B. M. Ricketts, Cincinnati.
33 Meatitis Erosiva Puerorum. H. Goldenberg, New York City.
34 The End Results of Prostatectomy. J. B. Squier, New York.
35 Combined Cauterization and Curetting as a Treatment of Chancroids. V. C. Pedersen, New York, and E. H. Marsh, Brooklyn.
36 Accidental Cauterization of the Male Urethra with a Concentrated Silver Nitrate Solution: Complete Recovery. A. L. Wolbarst, New York.
37 Apparently Cured Cases of Gonorrhea with Persistence of Gonococci. C. S. Stern, Hartford, Conn.
38 New Instruments for Throat Work. H. Hays, New York City.

Surgery, Gynecology and Obstetrics, Chicago

July

39 *Gall-Stones During Pregnancy and the Puerperium. R. Peterson, Ann Arbor.
40 The Employment of Vaccine Therapy in Gynecology and Obstetrics. J. W. Williams, E. B. Cragin and F. S. Newell, Baltimore.
41 *On Fibromyomata of the Uterus with Special Reference to Abdominal Hysterectomy. I. S. Stone, Washington, D. C.
42 *The Repair of Inaccessible Vesicovaginal Fistulæ Following Hysterectomy. G. G. Ward, New York.
43 *Bilateral Tubal Pregnancy. P. Findley, Omaha.

44 *The Surgical Treatment of Puerperal Sepsis. H. N. Vineberg, New York.
45 *Id. E. E. Montgomery, Philadelphia.
46 *When Shall We Operate in Pulmonary Septic Infection? J. O. Polak, Brooklyn.
47 *Three Unusual Cases. W. P. Manton, Detroit.
48 *What Are End Results of Surgery or Surgical Operations for the Relief of Neurasthenic Conditions Associated with Various Visceral Ptoses? J. A. Blake, New York.
49 Id. R. R. Smith, Grand Rapids, Mich.
50 Successful Reimplantation of Pelvic Kidney in the Female. D. Bissell, New York.
51 *Syphilitic Fever in Pregnancy and the Puerperium. F. J. Taussig, St. Louis.
52 *Right Pelvic Kidney, Absence of Left Kidney and Uterus; Both Ovaries in the Inguinal Canal. T. S. Cullen, Baltimore.
53 Carcinoma of the Right Fallopian Tube so Large that It was Readily Palpable Through the Abdomen. T. S. Cullen, Baltimore.
54 Colopexy. S. G. Gant, New York.
55 Technic of Hysterectomy Used in Clinics of Barton Cooke Hirst. E. E. Gelder, Peoria, Ill.
56 Radical Cure of Infiltrating Cystitis and Contracted Bladder. G. Kolischer and H. Kraus, Chicago.

39. Abstracted in The Journal, May 28, 1910, p. 1812.

41, 42, 44, 45, 46, 52. Abstracted in The Journal, June 11, 1910, pp. 1992, 1993, 1994.

43. Abstracted in The Journal, May 14, 1910, p. 1630.

47. Abstracted in The Journal, May 21, 1910, p. 1712.

48. **Relief of Neurasthenic Conditions.**—In recommending an abdominal operation to relieve neurasthenia, Blake says the following four conditions must be satisfied: 1. That there is a definite morbid or mechanical perversion of the normal condition of the viscera; 2, that it is the chief underlying cause of the neurasthenic state: 3, that the neurasthenic condition cannot be cured without its correction; 4, that it can be corrected by a definite operative procedure of only moderate danger to life.

51. **Syphilitic Fever in Pregnancy.**—Taussig reports a case of syphilitic fever occurring toward the end of pregnancy and persisting for some time after the delivery of the child. He says that the fever at the outburst of the syphilitic eruption is very different from the later syphilitic fever. The eruption fever lasts three to four days, is remittent in type, and does not usually rise over 10 to 103. With the drop in temperature the syphilitic rash appears. The striking effect of the hypodermic treatment of syphilis as against that of internal medication was illustrated in this case.

West Virginia Medical Journal, Wheeling

July

57 Brain Surgery—Report of Cases. F. L. Hupp, Wheeling.
58 Three Cases of Cranial Injury, with One of Subdural Cyst. R. H. Powell, Grafton.
59 Pellagra. J. R. Bloss, Huntington.
60 Vasectomy: Its Ethical and Sanitary Limitations. C. H. Preston, Davenport, Iowa.

California State Journal of Medicine, San Francisco

July

61 Surgery of the Lungs. A. S. Lobingier, Los Angeles.
62 Differential Pressure. D. Tait, San Francisco.
63 Methods of Differential Pressure. R. Russ, San Francisco.
64 The Future of Heart Surgery. H. M. Sherman, San Francisco.
65 Clinical Features of Hypophysis Disease. H. C. Moffitt, San Francisco.
66 A Plea for a State Institution for the Treatment of Chronic Alcoholics and Drug Habitués. R. E. Bering, San Francisco.
67 Prolonged Dilatation for Dysmenorrhea. G. B. Somers, San Francisco.
68 Ethical Versus the Commercial Side of Medical Practice—Which Will Serve? J. McMahon, San Jose.
69 Abdominal Injuries: Early Diagnosis and Treatment. R. T. Legge, McCloud.

Texas State Journal of Medicine, Fort Worth

July

70 [illegible] on Cancer. B. Saunders, Fort Worth.
71 [illegible] Should Have Regarding Cancer: B. C. Eskridge, Houston.
72 Infant Feeding. L. B. Kline, Houston.
73 *An Unusual Case of Transposition of Viscera. M. P. Stone, Dallas.

73. **Transposition of Viscera.**—In this case there was an opening 2½ by 1½ inches in the diaphragm, a little to the left of the median line, which was found to be smooth and free from adhesions. A loop of small intestine measuring 42 inches was contained in the left pleural cavity. The entire stomach, omentum and transverse colon were also in the left pleural cavity. The colon pursued a diagonal course from the cecum to the left abnormal opening in the diaphragm, thence upward to the dome of the pleural cavity, descending in a curve to the left, outward and downward, and out through the same opening through which it entered. After entering the abdominal cavity again, it pursued its normal course. The esophagus passed out of the thorax through the same opening as the aorta, forming a sacculation 3 inches long by 2 inches wide, having very much the appearance of a second stomach. It then passed through the opening in the diaphragm into the cardiac end of the stomach. The stomach was enlarged, surrounded by adhesions, and embedded in the great omentum. The cardiac and pyloric ends were in close apposition, and situated just above the opening in the diaphragm. The left lung was very much flattened and was plastered against the pericardium and the vessels leading away from the aorta. The heart was entirely on the right side. The right lung was bound down in a mass of strong pleural adhesions, and its apex was riddled with cavities. The appendix was retrocecal, perforated and buried in adhesions. The liver was very much enlarged, and extended to the crest of the ilium. This case had been diagnosed pulmonary tuberculosis just prior to the death of the patient.

Albany Medical Annals

July

74 Faraday: His Life and His Work. W. G. Tucker, Albany.

Laryngoscope, St. Louis

July

75 The Isthmus of the Eustachian Tube: The Pathology and Treatment of the Middle Ear. S. Yankauer, New York.
76 Status Thymo-Lymphaticus and Its Relation to Sudden Death. G. H. Cocks, New York City.
77 Suppurative Ear Disease in Diabetes Mellitus. O. J. Stein, Chicago.
78 Severe Sepsis Following Tonsil Operations. L. W. Dean, Iowa City, Iowa.
79 Abscess of the Nasal Septum. G. F. Keiper, Lafayette, Ind.
80 A Forceps for the Control of Tonsillar Hemorrhage. S. Rosenheim, Baltimore.

Archives of Internal Medicine, Chicago

July

81 **Paramœba Hominis* an Intestinal Parasite of Man. C. F. Craig, Washington.
82 *The Quantitative Determination of the Chlorids in the Urine. S. C. Harvey, New Haven, Conn.
83 *The Bovine Type of Tuberculosis Associated with Tuberculosis in Man. M. Fabyan, Boston.
84 The Nitrogen and Sulphur Metabolism in Morbus Ceruleus. N. B. Foster, New York.
85 Adiposis and Lipomatosis. I. P. Lyon, Buffalo.

81. ***Paramœba Hominis.***—Four years ago Craig described a new intestinal parasite of man, which, because of its life-history, was included in the genus paramœba, established by Schaudinn, naming the organism *Paramœba hominis*. The object of the present paper is to record further observations on this interesting parasite and to call attention to its probable occurrence in patients suffering from chronic diarrhea, in which the attacks alternate with periods of constipation, thus resembling quite closely the clinical picture of the form of dysentery due to the invasion of the intestine by *Entomeba histolytica*.

82. **Determination of Chlorids in Urine.**—In making a number of chlorid determinations in urine according to the original Volhard method, Harvey noticed that when only a small amount of nitric acid was used, the end point was indistinct and that it was difficult to obtain duplicates. On increasing the amount of acid used, however, the end point became sharp and two determinations on the same urine checked within the error of reading the burette. Moreover, on comparing these results with those obtained with the modified Volhard they were found to be identical. Based on these findings Harvey evolved a modification of Volhard's method which he now describes.

83. **Bovine Type of Tuberculosis in Man.**—The three cases cited by Fabyan illustrate different types of tuberculosis, all obscure as to diagnosis during life. In the first case—that of an adolescent—either the local tuberculosis may have had no immediate connection with the cause of death, or else the beginning of dissemination of the virus from the primary focus may have led to a reaction of the tuberculin type and to death. In the second case—that of an infant—the generalized tuberculosis starting from the mesenteric lymph-nodes

was evidently not suspected, for the clinical history states that within the last week of life the patient had an acute nephritis. Here also the liberation of tubercle toxins may have been responsible for the acute nephritis. In the third case—that of a child of 17 months—the symptoms pointed to the central nervous system and at one time a tentative diagnosis of anterior poliomyelitis was made. No similar cases have come under observation during this period. Fabyan says they may be considered three consecutive cases as studied in the laboratory, all due to the bovine type of tubercle bacillus.

Long Island Medical Journal, Brooklyn

July

86 The Long Island College Hospital: An Historical Sketch. J. M. Winfield, Brooklyn.
87 Hemorrhage from the Kidney: Its Recognition, Significance and Treatment. P. M. Pilcher, Brooklyn.
88 Indications for the Various Operations on the Gall-Bladder and Biliary Passages: Points in the Technic. W. C. Wood, Brooklyn.
89 Types of Movable Kidney. J. O. Polak, Brooklyn.
90 Intractable Hemorrhage of the Uterus. W. P. Pool, Brooklyn.

Cleveland Medical Journal

July

91 The Baby in the Tuberculous Home. R. A. Bolt, Cleveland.
92 Clinical Evidence of the Relation of Menstruation, Ovulation and Fertilization. A. H. Hill, Cleveland.
93 Relation Between Ovulation, Menstruation and Fertilization as Shown by Some Early Human Embryos. N. W. Ingalls, Cleveland.
94 The Relation of Menstruation, Ovulation and Pregnancy in Mammals. F. C. Waite, Cleveland.
95 The Profession of Nursing. C. L. Scudder, Boston.
96 Albuminuria of Adolescence. W. C. Stoner, Cleveland.
97 The Tonsils as Sources of General Infection. T. A. Burke, Cleveland.
98 Recent Advances in the Treatment of Pathologic Conditions of the Nose. W. B. Chamberlin, Cleveland.
99 Aerophagia, Causes and Treatment. M. Schott, Cleveland.
100 Chronic Cephalic Tetanus. A. N. Dawson, Cleveland.

Ohio State Medical Journal, Columbus

July

101 *Laboratory Diagnosis—Its Importance to the Practitioner. F. C. Wood, New York.
102 Chronic Pancreatitis. C. N. Smith, Toledo.
103 *Premature Baldness—Alopecia Seborrhoica, Pityroides, or Furfuracea—Its Symptomatic and Rational Treatment. M. L. Heidingsfeld, Cincinnati.
104 *Diagnosis and Treatment of Early Pulmonary Tuberculosis. J. P. DeWitt, Canton.
105 *New Method of Treating Uretero-cervical Fistula. E. M. Gilliam, Columbus.

101. Abstracted in The Journal, July 9, 1910, p. 154.

103. **Premature Baldness.**—Heidingsfeld says that animal experimentation and clinical experience reveal that premature baldness is not a specific infection. Heredity exercises, at most, a predisposing influence. It occurs chiefly in the opulent individuals who indulge in such over-attention as frequent and unnecessary shampooing, combing and brushing, massage and faradism, etc. It is an infrequent condition in the indigent poor and unkempt. It predominates greatly in private over dispensary practice. It is doubtless somewhat predisposed by causes which impair the general condition of the patient. It possesses a symptomatology consisting of four well-defined symptoms, namely, dandruff, excessively dry or excessively oily conditions of the scalp, itching and loss of hair. Treatment to be successful must be prophylactic, general and local in character. Local treatment should be symptomatic and carefully controlled to meet the special indications of the various manifest symptoms.

104. Abstracted in The Journal, July 16, 1910, p. 245.

105. **Uretero-Cervical Fistula.**—Following a supravaginal hysterectomy, a uretero-cervical fistula developed. The fistula, no doubt, was the result of forceps pressure on one of the ureters. An abdominal operation for the repair of the injured ureter was suggested, but refused by the patient. An attempt was then made to divert the flow of urine into the bladder by turning the cervix into that viscus. The vaginal wall was dissected from the bladder extensively on both sides through a median incision, and a crescentic incision made around the cervix. The cervix was denuded in its entire extent with the exception of the portion of the tip which projected into the bladder. A male catheter, armed with catgut, was then pushed up through the urethra and the bladder wall incised on the end of it, the opening in the bladder being sufficient to admit the cervix. Interrupted chromic gut sutures fastened the anterior surface of the cervix to the uppermost portion of the vesico-vaginal opening. A ligature through the posterior lip of the cervix was then caught in the loop of the catheter suture and drawn out through the urethra, pulling the cervix into the bladder. The edges of the incision in the vaginal and bladder walls were tacked to the posterior denuded surface of the cervix with chromic gut and silk-worm sutures. No leakage occurred on filling the bladder.

Journal of the Kansas Medical Society, Kansas City

July

106 *The Use of Tuberculin in the Diagnosis of Tuberculosis. M. A. Barber, Rosedale.
107 Etiologic Factors in Children's Dysenteries. E. H. Schorer, Lawrence.
108 Non-Tuberculous Infection of the Kidney. C. C. Nesselrode, Kansas City.
109 Acute Endocarditis. E. L. Simonton, Wamego.

106. **Use of Tuberculin in Tuberculosis.**—The tuberculin tests, says Barber, are of decided value in those numerous cases in which the ordinary methods leave the physician in doubt. They present no technical difficulties insuperable for the careful practitioner. The positive von Pirquet in children, the negative in children and adults, the positive Calmette, the positive and negative subcutaneous and especially the positive subcutaneous with focal reaction have a greater value than the other tuberculin findings. No condition should be judged by the tuberculin test alone, but this should be taken only as one element in making up the diagnosis.

St. Paul Medical Journal

July

110 The Relational Pathology of Pneumonia. H. A. Tomlinson, St. Peter, Minn.
111 Mosquitoes of Minnesota. K. Taylor, St. Paul.
112 Estimation of Kidney Function. F. J. Savage, St. Paul.

United States Naval Medical Bulletin, Washington

July

113 Illumination of Study Rooms. A. L. Parsons and H. W. Smith, U. S. Navy.
114 The Surgical Aspect of Filariasis. C. F. Stokes, U. S. Navy.
115 Venereal Prophylaxis of the Asiatic Station. O. Diehl, U. S. Navy.
116 *Dried Blood Serum: A Substitute for Fresh Blood Serum in the Rapid Preparation of Löffler's Medium. E. W. Brown, U. S. Navy.
117 Need for a Pathologic Collection at the U. S. Naval Medical School. C. S. Butler, U. S. Navy.
118 Helminthologic Technic. P. E. Garrison, U. S. Navy.
119 Demonstration of Treponema Pallidum. F. M. Shook, U. S. Navy.
120 *"Unlearnable" Vision Test Card for Use in Naval Services. E. J. Grow, U. S. Navy.
121 A Suggested Bunk Tray. G. F. Freeman, U. S. Navy.

116. **Dried Blood Serum.**—Brown describes a method for the preparation of Löffler's blood serum medium on board ship, which could be used elsewhere quite as well. The success in the manufacture of the dried milk suggested to him that a similar process might be applied to blood serum, the serum being dried in toto, free from preservatives and at reasonable cost. Accordingly, several samples were forwarded prepared from fresh beef serum. These were sealed in small tin cans and were received on board the U. S. S. *Vermont*, Jan. 2, 1910. None was opened until the ship returned to Hampton Roads from Guantanamo, March 30, 1910. Blood serum slants were prepared from the material. A 12½ per cent. solution of the dried serum was made, this corresponding approximately to the proportion of solids in the original serum, the solution being readily effected by rubbing up with mortar and pestle. Glucose bouillon was added as in the ususal method, inspissation carried out at 70 C. for two hours, and sterilization effected in the dressing sterilizer at 8 pounds pressure for thirty minutes. The results were excellent and compared favorably with slants as ordinarily made from fresh serum. The coagulum was firm and free from bubbles. Inoculations were made from a pure culture of diphtheria bacillus and typical growths obtained.

The dried serum samples, opened after a period of nearly five months, were free from all signs of deterioration. A large number of tubes were prepared and again uniformly good results were yielded. Inoculations were then made directly from a large number of throats of diphtheria cases in the hospital. A control was made by inoculating tubes made from fresh serum and from the same clinical cases. The stained preparations were equally typical in all cases, whether from the dried or fresh serum.

120. **"Unlearnable" Vision Test Card.**—In order to overcome the possibility of such previous familiarity with test cards as to enable the person tested to read the letters readily even when not actually visible, Grow has devised a method which is effective and at the same time exceedingly simple. The desirability of having a chart that eliminates the possibility of the candidate being able to learn the letters either intentionally or unconsciously is apparent. By the method generally in use the medical examiner is never certain whether the candidate has learned the letters or not, and his first suspicion may be aroused by receiving a letter from the bureau announcing the fact that so and so, whom he passed a month previously, has been surveyed and discharged from the service on account of defective vision, existing prior to enlistment.

The new chart proposed is constructed with a view to eliminating this constant source of error. The chart is made with the idea of securing uniform test letters (Snellen); adequate illumination and an "unlearnable" set of letters. The card bearing the letters is placed inside an illuminated box, and by means of a movable back certain letters are made to appear at a horizontal and a vertical opening. The operator does not know the letters presenting until he observes them himself. The candidate under examination has no guide to assist him, and if he reads the letters presenting correctly he must see them. The numerous combinations of groups of letters which can be instantly thrown into view are too many for him to memorize, and although he may learn every letter on the card in their sequence, that knowledge would be valueless when the test is applied, for he reads only the letters which the operator throws into position and he cannot pronounce them unless he actually sees them, which is the object desired. In other words, the candidate can have possession of the chart, and any knowledge he can gain thereby will be of no assistance in aiding him to deceive as to his actual visual acuity.

Journal of the Medical Society of New Jersey, Orange

July

122 A Plea for a Higher Standard of Medical Education. B. A. Waddington, Salem.
123 The Broader Aspect of Medical Science. W. G. Thompson, New York.
124 Why and By Whom Should Surgery be Advised? J. B. Deaver, Philadelphia.
125 The Production and Use of Vaccine Virus. R. Slee, Nanuet, N. Y.
126 Rural Sanitation. P. P. Rafferty, Red Bank.
127 Abuse of Medical Charity. J. W. Reid, Kearny.
128 Hospital Nurses. D. Strock, Camden.

American Journal of Physiology, Boston

July

129 The Analysis of Edestin and Zein. T. B. Osborne and L. M. Liddle, New Haven, Conn.
130 The Sources of Loss in Analyzing the Products of Protein Hydrolysis. T. B. Osborne and D. B. Jones, New Haven, Conn.

Chicago Medical Recorder

June

131 Contemporary Workman's Compensation for Industrial Injuries. W. H. Allport, Chicago.
132 Some of the Characteristics of the Work of O. Henry. H. T. Byford, Chicago.
133 Postpartum Hemorrhage. D. A. Horovitz, Chicago.
134 The Necessity of Medical Inspection of Schools. S. E. Wright, Marinette, Wis.

July

135 Contemporary Workman's Compensation for Industrial Injuries (continued). W. H. Allport, Chicago.
136 *The Etiology of Zymotic Enteritis (Epidemic Diarrhea). R. Vincent, Westminster, Eng.
137 A Prostatic Brief. G. Kollischer and H. A. Kraus, Chicago.
138 Is Strychnin a Sedative? W. F. Waugh, Chicago.
139 Hypertrophy of the Heart. L. F. Bishop, New York.

136. **Zymotic Enteritis.**—Vincent maintains that the effective cause of zymotic enteritis is not the organisms which finally promote its production, but the methods by means of which the infant has been deprived of its natural safeguards against them. The fundamental characteristic of the natural food of the infant is that it is a raw fluid. In all circumstances the cooking of milk for the use of infants gravely impairs its nutritive value. With regard to zymotic enteritis, no serious amelioration in the mortality arising from this disease can be anticipated until the fullest protection of pure raw milk is secured for every infant, and special precautions must be taken, at times when heat and dust are prevalent, to secure that the milk for the use of infants shall be preserved fresh and unboiled.

American Journal of Public Hygiene, Boston

June

140 *A Method of Sealing Test Tubes to Prevent Evaporation of Culture Media. W. L. Beebe, St. Cloud.
141 *Age Problems in Industrial Hygiene. O. R. Lovejoy, New York.
142 Protection of Factory Employees Against Dust Arising from Certain Occupations. W. C. Hanson, Cambridge, Mass.
143 *Ventilation of Industrial Establishments. C. T. Rogers, New York City.
144 *The Sex Problems in Industrial Hygiene. F. Kelley, New York.
145 *Relation of Life Insurance to Public Hygiene. L. K. Frankel, New York.
146 *Physiologic Aspects of Ventilation. T. Hough, Charlotte, Va.
147 Incineration of City Wastes with Utilization. P. M. Hall, Minneapolis.
148 Disposal of City Wastes and Consideration of Nuisances in *Edmonton, Alberta, Canada*. *T. H.* Whitelaw, Edmonton, Canada.
149 The School Nurse as an Aid to Medical Inspection of Schools. G. L. Kiefer, *Detroit*.
150 The Control of a Large Milk Supply. W. A. Evans, Chicago.
151 The Relation of Public Water Supplies to General and Specific Mortalities. A. Lederer, Chicago.
152 The Need of Quantitative Methods in Epidemiologic Work. C. V. Chapin, Boston.
153 Period of Incubation of Inoculation Rabies. B. L. Arms, Boston.
154 Dry Air and Its Effect on Health. W. E. Watt, Chicago.
155 Boston and Chicago Death Rates. W. H. Davis, Boston.
156 Condensed Milk and Its Value for General Use and for Infant Feeding. J. P. Jordan and F. E. Mott, Boston.
157 Personal Hygiene. P. C. Stiles, Boston.
158 Veterinary Hygiene. W. L. Beebe, St. Cloud, Minn.
159 Sanitary Engineering. R. S. Weston, Boston.
160 Public Health Legislation. F. H. Slack, Boston.

140. **Method of Sealing Test-Tubes.**—In the method devised by Beebe a square piece of glass is covered with sealing wax and pressed down on the top of the tube while the tube is hot enough to melt the wax. In his experience the best results were obtained by the following procedure: The glass sealing-wax caps are easily made by cutting window glass into squares of from three-fourths to one inch. These are thoroughly cleaned and dipped into very hot sealing wax, thus covering them evenly. They are then dropped into a dish of cold water which cools the wax before they reach the bottom of the dish so they do not adhere to one another. Bacteriologic test-tubes which are thicker than the ordinary tubes should be used. It is desirable to use tubes without a lip because thin tubes are frequently broken in removing the cap. It is advantageous to have the top of the tube ground if the edge is uneven. The cotton plug should fit rather loosely, so that they can be flamed and pushed down just below the mouth of the tube. The tube is then heated sufficiently to melt the sealing wax where the rim of the tube comes in contact with the wax. The glass sealing-wax cap is firmly pressed down on the mouth of the tube and held in position for a few seconds and then placed in an upright position in a test-tube rack until they have cooled. Tubes that have been sealed by this method have been kept in his laboratory for over three years without evaporation. The caps are easily removed by tapping them on the underside with some instrument, such as a scalpel.

141, 143, 144, 145, 146. Abstracted in The Journal, Nov. 27, 1909, pp. 1845, 1846.

Illinois Medical Journal, Springfield

July

161 *The Future of Medicine. C. G. Stockton, Buffalo.
162 *Cancer. G. W. Crile, Cleveland.
163 The Non-Operative Treatment of Inguinal Hernia and the Hernia and Truss Questions. C. G. Buford, Chicago.
164 Severe Sepsis Following Tonsil Operations: *Death from Sepsis Following Tonsillectomy*. L. W. Dean, Iowa City.
165 Certified Milk. G. M. Whiteaker, Washington, D. C.
166 The Chicago Medical Society Milk Commission. J. W. VanDerslice, Chicago.
167 Certified Milk Commissions. O. P. Geier, Cincinnati.
168 The Pain of Gastric Ulcer. F. Ewing, Galesburg.

161. **The Future of Medicine.**—After reviewing the advances made in medicine and the various influences which have made very decided inroads on the physician's income, and which are becoming more potent forces in eliminating the unfit medical practitioner, Stockton asks: What should be the attitude of the profession toward this question? There has been a time when the profession has not stood for the good of the race. When individual members have lost sight of this fact they

have sloughed off from the proper body of the profession. It would seem to be a wiser plan deliberately to cooperate with the movement, to curb its rank and unintelligent exuberance where we may, to cement in a lasting foundation that which is undeniably good. To this end, it is necessary now, more than ever before, for the physician to interest himself in sociology as well as pathology, and thus to create for himself a larger place, more amplitude of vision, a wider interest and the means of subsistence. There must necessarily be a demand for special training, and it will probably be found that physicians shall have no less active occupation when they shall have adapted themselves to these new requirements of a contending civilization.

It is highly probable that the aroused public interest in the subject of medicine will result in a much more enlightened laity than was previously known. Many diseases may be prevented, or their oncoming foreseen, so that the physician will have more opportunity for treating the patient rather than the disease. The great question of heredity may eventually receive discriminating attention. But long before this it is probable that methods will be found more economical in suffering and expense than is at present true in the management of a large proportion of cripples and neurasthenics, of inebriates and others who now encumber society. But even though this tendency of the semi-public treatment of disease appears to be temporarily an obstruction to the profession, even though in some respects it is found to be inimical to professional interest and destructive to the welfare of the laity, it is sure in the course of events to right itself, leaving for physicians a residuum of good.

162. **Cancer.**—Based on the work of the experimentalist, the biologist, the internist and the surgeon, tested by a personal experience of over 600 operations for cancer in various parts of the body, Crile makes the following generalizations: Cancer occurs widely throughout the entire animal kingdom, in the herbivora and the carnivora, in birds and in fish, quite regardless of habit or mode of living. Its incidence and growth obeys the law of no known injection; its actual increase in frequency is still unproven; rare cases undergo spontaneous retrogression; in experimental cancers, at least, such regression is accompanied by an immunity; the immunity in sarcoma in dogs, at least, is in the blood and may be used to cure other cases in dogs; in man this principle has not yet been established; no curative power of any drug or serum has proven effective for human cancer. X-ray and radium may kill superficial cancer cells, but as agencies for cure they are unreliable. In cancers on the superficial parts of the body where observations may be accurately made, at least in most cancers, there is a pre-cancer stage, the most common form being chronic irritation, chronic ulcer, scar, wart, moles, benign tumors, keratosis, etc. Such cases should be decancerized. Preventable or curable cancer should not be watched, it should be prevented or cured.

Buffalo Medical Journal

July

169 The Progress of Medicine and Surgery. M. D. Mann, Buffalo.
170 Presentation of Genitourinary Specimens. J. H. Dowd, Buffalo.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

July 9

1 Subjects of Surgical Interest. H. F. Waterhouse.
2 *Modern Treatment of Fractures. F. N. G. Starr.
3 Accuracy in the Diagnosis of Urinary Disease. B. J. Ward.
4 *The Early Diagnosis and Treatment of Tuberculous Kidney. A. Fullerton.
5 *Suprapubic Drainage of the Bladder as an Alternative to Prostatectomy and as a Relief Operation. J. B. Pike.
6 The Incidence of Tuberculosis in Childhood. F. Hamburger.
7 The Prevention of Mortality from Pelvic Operations. H. Macnaughton-Jones.
8 The Presence of Sugar in Healthy Urine as a Source of the Osazone Reaction. F. W. Pavy and H. W. Bywaters.

2. **Modern Treatment of Fractures.**—The open treatment of fractures is recommended by Starr. He states briefly the advantages and disadvantages of this procedure.

4. **Tuberculous Kidney.**—Out of a recent series of 400 cases of all sorts of bladder and renal complaints requiring the use of the cystoscope for diagnosis, of which Fullerton says he has more or less extensive notes, 24, that is, 6 per cent., were cases of tuberculous kidney. In 13 of these the diagnosis was confirmed by operation, 9 patients having been operated on by Fullerton and 4 by other surgeons. In a few, other tuberculous foci were found in other parts of the body—for example, lymph nodes, epididymis, testicle, prostate, or lungs—but these associated lesions were entirely overshadowed by the renal or vesical condition. In the large majority the bladder was secondarily involved. Eleven cases occurred in the male sex and 13 in the female. The youngest patient was a boy aged 11 years. Another case was that of a girl aged 12 years. One was a boy aged 17, who had, in addition, signs of early phthisis at the apex of the right lung. Eight occurred between the ages of 20 and 30, 8 between the ages of 30 and 40, and three between the ages of 40 and 50.

In 8 cases Fullerton was able to elicit a distinct history of tubercle in the immediate relations. In all but one of the remainder a family history of all forms of tubercle was denied. In one case he failed to find any note on this point. In about 33 per cent., therefore, there was a distinct history of family tuberculosis.

In 11 cases the right kidney was affected; in 11 the left; in one both kidneys were obviously diseased, and in one, the second kidney was suspected. Tubercle bacilli in the urine were found in 11 cases. In some of the remainder the diagnosis seemed so obvious that the search was not persisted in.

In 9 cases Fullerton removed the affected kidney. One patient died six weeks after operation. One patient lived for a year, making an apparently good recovery for a while, but succumbed later from pulmonary phthisis. Another developed tuberculous epididymitis shortly after nephrectomy and Fullerton had to remove the affected epididymis with the testicle. He still has nodules in his prostate and is occasionally troubled with a small sinus over the position of the stump of the divided vas. In spite of this, he is now in excellent health, being 3½ stone (50 lbs.) heavier than he was at the time of his operation two and a half years ago. A patient whose vesical ulcers had disappeared when examined four months after nephrectomy, is still keeping well three years later. The others are so far doing well. In 4 cases the affected kidney was removed by other surgeons. Two of these are quite well more than 2 years after. A third is only a few months done. A fourth patient died a few days later.

This gives an operative mortality of about 15 per cent., but the patients dying after operation were operated on almost too late to expect a good result, so that one can, Fullerton thinks, look forward to a death-rate in early cases of not much more than that of gastro-enterostomy or appendicectomy, provided, of course, that the corresponding organ on the opposite side has been found to be efficient. Of the patients not operated on, one died four years after the onset of symptoms from epileptiform convulsions, two have been lost sight of, and the others are living in a more or less miserable condition, with the exception of one patient in whom an attempt at natural cure had taken place.

5. **Suprapubic Drainage of the Bladder as an Alternative to Prostatectomy.**—In some cases in which the removal, either of the growth or the organ seems hopeless, Pike believes that as a relief measure suprapubic drainage appears to have a valuable place.

Lancet, London

July 9

9 *The Cerebrospinal Fluid. F. W. Mott.
10 *The Behavior of the Leukocytes in Infection and Immunity. F. W. Andrewes.
11 Submucous Resection of the Nasal Septum. H. B. Tawse.
12 The Examination of Feces in Medical Practice. O. Kraus.

13 The Administration of the Public Health and Education Acts in Relation to the Prevention and Cure of Diseases of the Nose and Throat. T. J. Faulder.

9. The Cerebrospinal Fluid.—A rough method for the chemical examination of the cerebrospinal fluid is described by Mott as follows: Ten c.c. of the centrifuged fluid, after examination for cells has been made, are taken and rendered faintly acid with acetic acid; 3 c.c. of absolute alcohol are added and the whole gently heated on a water bath for 15 minutes. After standing overnight, it is again warmed and filtered. The amount of protein can be approximated at sight or weighed on a tarred filter-paper or Gooch crucible, the amount of ash being subtracted from the total weight of protein. The filtrate is rapidly evaporated to dryness at a low temperature, the residue is moistened, and a smear transferred on the end of a glass rod to a slide, and one drop of a saturated solution of iodin in 10 per cent. potassium iodid is added. The mixture is now watched under the microscope, when, if cholin is present, brownish-black rectangular plates of cholin periodid will be formed. The moisture is removed from the residue by evaporation, and another extraction with absolute alcohol is made. The filtered extract is evaporated to dryness and extracted with hot chloroform. The volume of chloroform is reduced to about 2 c.c., and the presence of cholesterol detected by Liebermann's test, which is thus carried out: Add to chloroform solution a few drops of acetic anhydrid, then add concentrated sulphuric acid drop by drop. After a time, a rose coloration of the acid, and a violet coloration of the chloroform turning to blue, then green, indicate the presence of cholesterol.

The test for sugar can be performed on one or more c.c. of the original fluid, and Noguchi's and other confirmatory tests may be made on any of the remaining fluid. Many observations have been made, based on the examination of fluids obtained after death. Mott has found, however, that within a very short time after death the composition of the fluid so alters that the results obtained are useless and misleading.

10. Leucocytes in Infection and Immunity.—Andrewes believes that in the case of infection with the pyogenic cocci the immune animal responds by a higher and a more ready increase in the circulating polynuclear leucocytes than the normal animal.

Practitioner, London

July

14 Malignant Endocarditis. J. Broadbent.
15 Treatment of Large Postoperative Ventral and Umbilical Hernia. H. J. Waring.
16 Internal Abdominal Injuries. W. H. Battle.
17 Hydrocephalus. L. G. Guthrie.
18 The Diagnosis of Intracranial Tumors. A. J. Hall.
19 The Case of Exostosis of the Os Calcis. H. French.
20 Acute Polioencephalitis. R. Miller.
21 Slight Opacities of the Lens. A. H. Thompson.
22 Pregnancy Complicated by Intestinal Obstruction and Appendicitis. J. E. Gemmell.
23 Bennett's Fracture. V. A. P. Costobadie.
24 *One Hundred and Thirty-three Cases of Hydramnios. E. Burstal.
25 The Safety of Immediate Appendicectomy in Suppurative Appendicitis. M. Mamourian.
26 Traumatic Cerebral Hemorrhage with Remarkably Late Onset of Symptoms: Operation; Recovery. G. H. Hanna, R. Coombe and W. Gordon.
27 *The Prescription-in-a-Nutshell System. F. S. Pitt-Taylor.

24. Hydramnios.—According to Burstal the percentage of women with hydramnios varied from .65 at Queen Charlotte's Hospital to 1.3 at York Road Lying-in Hospital. The total number of cases at the two hospitals was 133, out of which 6 were twin pregnancies. The sexes were distributed in a different way to what is usually given in the text books, 74 being males and only 61 females. Monsters and deformities were rare. Two were anencephalic, one was hydrocephalic with double hare-lip, spina bifida and talipes, and one had hare-lip and cleft palate, i. e., four deformities out of 139 children born. The effect of the excess of liquor on the second stage of labor was not marked, the average duration being about 1½ hours. The excess of liquor amnii seemed to predispose to postpartum hemorrhage, it being recorded in 19 cases. The presentation was vertex in 122 patients; breech in 13, face in 2, and transverse in one. The excess of fluid does not seem to predispose to abnormal presentations.

The age of the mother cannot be considered a predisposing cause for hydramnios, the ages varying from 18 to 46, nor can the number of the pregnancy, as hydramnios occurred in pregnancies varying from the first to the fifteenth. In no single case was there a previous history of hydramnios. Albumen was present in the urine of the mother in 46 out of 112 recorded cases. With regard to the twin cases no definite statement can be made.

27. Prescription-in-a-Nutshell System.—Without going to the trouble of keeping any record in a book, the system described by Pitt-Taylor enables a record of the prescription to be written on the label of the bottle of medicine or other package dispensed. In order thus to record the prescription rapidly and secretly on the label, every bottle, jar or other package in the dispensary must be alphabetically lettered and numbered, and the letter and number of each ingredient of the prescription dispensed, followed, if necessary, by its quantity in the bottle, are then written down on its label. All the bottles, jars, and other packages, on the shelves are numbered in order, A, A1, A2, A3, A4, A5, A6, A7, A8, A9, B, B1 to B9, C1 to C9, and so on to Z9, commencing by numbering the bottle or jar on the extreme left hand side of the lowest shelf, and proceeding with the others, one after the other, on its right side straight round the dispensary until all those on the lowest shelf are numbered, and then continuing in the same manner with those on the shelf immediately above, and so on until all of them in the dispensary are numbered. A letter marks either the whole, or the first portion, of each ingredient's characters, and thus acts as a dividing point between the number which precede and succeed it; for instance, in $C_4D_1E_5$ the three components are clearly distinguished, whereas this distinction would not exist if the bottles were simply numbered numerically, as 243,246. It is not necessary to record the amount of each ingredient, or any at all of some of the prescriptions dispensed. Most physicians soon learn the usual amount of each drug they dispense and it only becomes necessary to indicate the amount when it varies either above or below this quantity. In these cases the amount of each ingredient to be recorded should be placed underneath a line drawn under the letter, or letter and number or numbers indicating it, so as to make, as it were, a fraction, and the words grain, minim, and ounce can be represented by using their first letters G, M, D, and O placed first; for instance, suppose the prescription contains 16 grains of potassium iodid, two drams of sodium salicylate, two drams of sodium bicarbonate, and an ounce of syrup of orange peel, and the dose is two tablespoonfuls three times a day, the ingredients alone are represented by writing, say $B_4C_6C_8H_3$, and the quantities as well by writing $\frac{B_4C_6C_8H_3}{G_{16}D_2D_2O_1}$.

In order to facilitate the working of this system, the label should be provided with a notice printed below the other instructions concerning the dose: "Please quote the letters and figures of the prescription number at future consultations, or return the bottle."

Journal of Laryngology, Rhinology and Otology, London

July

28 The Pathogeny of Cholesteatomata. V. W. Wingrave.
29 Congenital Insufficiency of the Palate (concluded). A. B. Kelly.

Glasgow Medical Journal

July

30 The Deaf Child from the Viewpoint of the Physician and of the Teacher. J. K. Love.
31 *Disease of the Cecum and Sigmoid which Simulated Affections of the Uterus and Adnexa. J. M. M. Kerr.
32 Arterial Spasm in the Brain Associated with Transient and Permanent Paralysis. G. A. Allen and G. H. Wilson.
33 *Congenital Enchondroma of the Right Hand. A. J. Hutton.

31. Disease of the Cecum and Sigmoid.—The cases reported by Kerr may be summarized as follows: 1. Carcinoma of the sigmoid which simulated an ovarian tumor; removal of sigmoid and rectum by combined abdominal and perineal operation, recovery. 2. Advanced malignant disease of rectum which resembled fibromyoma of uterus—colotomy—recovery. 3. Cyst of left ovary with carcinoma of sigmoid, which at first presented features of extrauterine pregnancy—removal of ovarian cyst, subsequent resection of bowel, recovery. 4. Tuberculous disease of cecum which simulated an ovarian tumor—lateral anastomosis, ten days later removal of cecum, recovery. 5. Chronic inflammation of appendix and cecum simulating a fibromyoma of the uterus—removal of cecum—recovery.

33. **Congenital Enchondroma of Right Hand.**—The patient, aged 23, whose grandfather had a similar deformity, presented large, irregular firm swellings on all the phalanges and metacarpal bones, with here and there soft areas over which superficial ulceration had occurred. The fingers were mere knobs projecting from the surface of the tumor, and the hand was quite useless. The largest swelling was as great as a big apple, and was situated on the metacarpal of the "ring" finger. On pathologic examination, the tumors showed the ordinary appearances of chondroma with calcified and osseous areas.

Bristol Medico-Chirurgical Journal

June

34 The Development of the Human Skull. E. Fawcett.
35 Biliary and Intestinal Sand. G. Parker.
36 A Case of Oxycephaly. G. H. Almond.
37 Iodoform and Thyroidism. A. R. Short.
38 *A Case in Which a Stone Formed in the Urethra Around a Piece of Wood Introduced into the Urethra Twenty-six Years Before the Removal of the Stone. C. A. Morton.
39 Bromoform Poisoning. R. Waterhouse.

38. **Stone in the Urethra.**—Twenty-six years before this man, aged 48, was seen by Morton, he had had retention of the urine, and in order to relieve himself he passed a kind of a bougie which he made of wood. The end of this broke off in his urethra, but did relieve the retention. The broken-off end of the wooden bougie, however, remained in the urethra. He had had difficulty with micturition at times since, and had kept in the house a No. 4 metal catheter, which he passed when the difficulty was marked. In doing so, he struck the piece of wood. He really struck the stone, but knowing nothing about stones in the urethra, he imagined it to be the piece of wood. A few weeks before Morton saw him a sinus formed in the perineum and an abscess was opened. There was a large mass of induration in the perineum, more to the right than the left. Morton removed the stone. The mass of induration was very largely due to the size of the stone. It lay in a pouched urethra, distinctly more to one side of the middle line than the other. On cutting open the stone a piece of wood was discovered as its nucleus.

Annales de l'Institut Pasteur, Paris

May, XXIV, No. 5, pp. 337-432

40 Study of Epidemic of Relapsing Fever in Algiers. (Recherches sur la fièvre recurrente et son mode de transmission.) E. Sergent and H. Foley.
41 *Epidemic of Malta Fever in France. (Epidémie de fièvre de Malta dans le departement du Gard.) P. Aubert, P. Cantaloube and E. Thibault.
42 Theoretical and Practical Study of Cheese Making. (Technique fromagère.) P. Maze.
43 *Report of Paris Pasteur Institute for 1909. J. Viala.

41. **Malta Fever in France.**—An epidemic of what was called infectious grip affected 106 of the 630 inhabitants of a farming district in southern France, and 40 died, while others were bedridden for several *months*. Investigation revealed that the epidemic was typical Malta fever, which has been known in France for some years, probably the result of importation of goats from Sicily. The epidemic had been preceded by an epizootic among *goats*, the disturbance manifested chiefly by numerous abortions among them. Goat's milk is used exclusively throughout the district. Sheep were also found infected but not in such numbers as the goats, and their milk was not used raw but made into cheese or left for the lambs. It has been suggested that cheese might transmit the infection and research in this line is now under way. Rabbits proved susceptible to experimental Malta fever infection. If it is found that these animals eliminate the microbe in the same way as the goats—in the urine—rabbits might prove an important agent in the transmission of the disease as they multiply with such rapidity and are sold in every market in France. The authors insist that Malta fever should be added to the list of notifiable diseases; that the introduction of goats into the country should be strictly supervised and that the goats already there should be kept under control and people warned against taking raw goat milk or cheese. They add that search for Malta fever and separate classification of the cases, will, they are confident, reduce the number of supposed cases of typhoid in the cities of southern France.

43. **Treatment of Hydrophobia at the Paris Pasteur Institute.**—The number of cases has constantly diminished, from 2,671 in 1886 to 467 in 1909, and the mortality among the patients taking treatment from 0.94 to 0.21 per cent. The only death in 1909 during the course of treatment was an English sailor bitten at Gibraltar and not applying for treatment until after a delay of 12 days. A comrade bitten on the same day and coming with him, developed symptoms of rabies 6 months after the course of treatment, and he died in 3 days.

Annales de Médecine et Chirurgie Infantiles, Paris

June 15, XIV, No. 12, pp. 381-408

44 *Morbid Associations. V. Hutinel.
45 Recurring Chorea. H. Triboulet and C. Périneau.
46 The Phenolphthalein Test in Nephritis. (Valeur séméiologique de la réaction de Meyer dans les néphrites.) G. Paisseau and L. Tixier. H. Triboulet and C. Périneau.
47 Gymnastic Exercises in Treatment of Curvature of the Spine. (De la gymnastique dans le traitement des déviations du rachis.) P. Redard.

44. **Morbid Associations.**—Hutinel discusses the way in which two concomitant diseases modify each other, generally aggravating each other and preventing the natural development of immunity in consequence. He describes a number of cases of the kind, typhoid with tuberculous pleurisy, scarlet fever and pneumonia, pneumonia and typhoid, typhoid and measles, typhoid and whooping-cough, and mucomembranous enteritis and typhoid. In one case measles coming on during the latter stages of typhoid induced a relapse of the typhoid, and recurrence of scarlet fever during convalescence from both scarlet fever and pneumonia was observed in another case. The typical course of the various diseases was materially modified by the coincidence of the two infections. In a case of typhoid coming on during whooping-cough the symptoms of the latter subsided with the onset of typhoid symptoms but returned again for two weeks after defervescence from the typhoid; this was followed by recurrence of the typhoid for 12 days, when the fever subsided and again the whooping-cough symptoms reappeared. The spasms of coughing were more violent than ever for 10 days when again the temperature arose and typhoid symptoms returned, followed again by whooping-cough symptoms as the fever subsided again. He declares that this alternation of relapses of both diseases showed how each had prevented the natural process of immunity in the other, and warns that the reaction to the tuberculin tests may be deceptively modified by a coincident infectious disease, possibly latent. He refers also to some cases of children with an inherited syphilitic taint, hitherto latent, but roused to serious manifestations by an intercurrent typhoid.

Lyon Chirurgical, Lyons

July, IV, No. 1, pp. 1-102

48 *Intermittent Hydrops of the Gall-Bladder. (Quelques nouveaux cas d'hydropisie intermittente de la vésicule.) E. Villard and G. Cotte.
49 Radium Treatment of Cicatricial Stenosis of the Throat. M. Cantas.
50 Mistaken Diagnosis [illegible] Peritonitis. (Trois observations rares de [illegible]. L. Desgouttes.
51 Incision and Rese[illegible] Canal and of the Concha after the Petromastoid Operation. (Incisions et résection du conduit auditif et de la conque après l'évidement pétromastoidien.) Lannois and Jacod.

48. **Intermittent Dropsy of the Gall-Bladder.**—Villard and Cotte report a case in which an intermittent accumulation of serous fluid in the gall-bladder was diagnosed as hydronephro-

sis and a lumbar incision made through which the gall-bladder was removed. In a second case the same mistake was made but the incision was sutured without cholecystectomy and the patient refuses any further operation, not having had any further attacks. Even catheterization of the ureters will not always clear up the diagnosis in these cases; an exploratory incision is generally necessary. In a third case the absence of a liver or gall-stone history, the recurring pain in the lumbar region and catheterization findings all suggested intermittent hydronephrosis, but nephrotomy revealed that the gall-bladder alone was at fault. In all these cases the trouble was due to obstruction by unsuspected gall-stones. Tanarky has recently reported a case of intermittent hydrops of the gall-bladder from a combination of gall-stones and cancer. Still another cause for the intermittent dropsy of the gall-bladder was evident in another case reported in detail by Villard and Cotte; besides calculi, stricture of the common bile duct or kinking of the cystic duct, retention of the contents of the gall-bladder may result from the extremely viscous character of its contents. The mucus is too thick and heavy to flow off normally through the outlet. This hypersecretion they ascribe to some infectious process and this assumption is confirmed by the benefit from prolonged drainage with modifying local injections. The drain was taken out too early in the case reported and the infectious process flared up a little again, but finally subsided entirely after drainage had been resumed for three months longer. By this time the secretions were normally fluid and there was no further pain. This patient had complained of recurring attacks of pain in the stomach and subhepatic regions, coming on a few hours after eating, generally in the afternoon. During the last five years the attacks had been more severe, compelling recumbency for several days afterward, but there was never any fever or jaundice although the patient was growing thin. The gall-bladder was found distended and painful, with intermittent tension under palpation. The walls of the gall-bladder gave evidence of repeated attacks of inflammation but there were no adhesions and all the symptoms subsided as soon as the organ had been evacuated. The patients in the cases were all women, the age ranging from 35 to 52.

Presse Médicale, Paris

June 29, XVIII, No. 52, pp. 489-496

52 *Transplantation of the Kidney. (La transplantation du rein.) E. Villard and L. Tavernier.

July 2, No. 53, pp. 497-512

53 *Serotherapy and Anaphylaxis in Cerebrospinal Meningitis. V. Hutinel.
54 *Quinin and Urea Bichlorid in Local Anesthesia. (Le chlorhydrate double de quinine et d'urée.) M. Gaudier.
55 Wassermann Reaction in 200 Cases. C. Garin and C. Laurent.
56 Institutions and Organizations for Protection of Mothers and Infants. (Les œuvres de protection de la mère et des enfants du premier age dans le departement de la Seine.) M. G. Schreiber.
57 *Idiopathic Contracture and Spasms of the Stomach. (La chorée de l'estomac.) G. Leven and G. Barret.

52. **Transplantation of Kidneys.**—Villard and Tavernier report experiences with seven dogs or goats in which they transplanted one of the animal's own kidneys or the kidneys from another animal. The autotransplantation gave durable results, while homotransplantation allowed the survival of the implanted kidney and its apparently normal functioning but whether the effect will be permanent is still a question. Transplantation of a kidney from another species of animals has not given satisfactory results to date. They did not find it necessary to rinse the excised kidney before implanting it, finding that clamping the arteries and veins was sufficient to prevent clotting of the blood in them, so that this perfusion is not necessary. The ureter, they state, should be implanted in the bladder, not in an external mouth. In the choice of an artery to connect with the implanted kidney, the splenic offers a number of superior advantages, especially the accessibility, size and functional adaptability.

53. **Fatal Anaphylaxis in Serotherapy of Cerebrospinal Meningitis.**—Hutinel has had 2 cases and knows of 2 others, still unpublished, in which antimeningococcus serum was given 3, 5 and 44 days after the first injections, and serious nervous symptoms developed at once, proving rapidly fatal. The patients were children between 3 and 6, and the injections had all been made into the spine; from 25 to 30 c.c. of the serum had been injected each time. He discusses the theories in regard to anaphylaxis and the reason why the toxic phenomena do not occur unless an interval of a few days has elapsed before the resumption of the injections, and the fact that these phenomena are more liable when the fluid is injected near the central nervous system. Ether and alcohol seem to confer a briefly transient immunity against anaphylaxis, and he adds that it is a popular notion in northern France that ingestion of a small amount of ether will cure the symptoms observed in certain persons after eating poisonous mussels. The symptoms induced by this mussel poisoning are very much like those of anaphylaxis and he suggests that the antianaphylactic properties of ether might be used in treatment of serious disturbances following injection of antimeningococcus serum. Besredka advocates rendering cattle immune to anaphylactic disturbances in seroprophylaxis by vaccinating them with the serum just beforehand. This method has recently been applied in Roumania on a large scale, Alexandrescu having used in vaccinating cattle against anthrax a mixture of antianthrax vaccine and serum. The animals are vaccinated against anthrax regularly once a year, at least, and oftener in case of epizootics. Ninety out of 180 animals thus treated were given a subcutaneous injection of 1 c.c. of the antianthrax serum five hours before the vaccinating mixture was injected, and none of these animals showed any trace of anaphylaxis while 10 per cent. of the 90 other animals not receiving the preliminary injection developed symptoms indicating anaphylaxis. Another prophylactic measure Hutinel suggests is to make the succeeding injections with a serum derived from another animal, a sheep, for instance, if horse serum had been used at first. In 2 of the cases Hutinel reports there was concomitant tuberculous infection which, he remarks, *may have aided in inducing the anaphylactic phenomena or at* least in conferring greater gravity on them.

54. **Local Anesthesia with Quinin and Urea Hydrochlorid.**—Gaudier's experience confirms that of Thibault, Hertzler and others as published in The Journal in the last three years. (See the issue of Oct. 23, 1909, page 1393.) He performed with this method of local anesthesia numerous operations on the nose, superficial tumors and other lesions in mucous membranes. It was his experience that this method of anesthesia did not prevent local hemorrhage and that the oozing recommenced at the slightest excuse when the dressings were changed. The anesthesia induced is more strictly localized than with cocain and lasts longer; he was able to renew the compressing dressings five hours later without pain. The reduction of sensibility persisted on an average fully three days. This property, he adds, may commend this method particularly for treatment of fractures. Cicatrization, however, seemed to him to be a little retarded, the wound not healing quite as quickly as with cocain. The anesthesia induced does not develop as rapidly as cocain anesthesia, and is not quite so profound, but it lasts much longer. The absence of vasoconstriction may interfere a little with the operation, but addition of the active principle of the suprarenal gland may obviate this although it was his impression that the latter in combination with the quinin had a less intense vasoconstricting action than alone.

57. **Chorea of the Stomach.**—Leven and Barret report three typical cases out of their much larger experience to sustain their assumption that the stomach may be affected with what they call actual chorea; that is a tendency to spasms and contracture of the musculature and sphincters, this motor restlessness entailing symptoms which prove rebellious to all ordinary methods of treatment. Skiagrams of the same stomach taken at a few moments interval, show the remarkable changes in the shadow as the stomach curves up on itself, straightens out or undulates in waves. The first patient had been treated for 10 years without benefit, his frequently recurring attacks of gastric pain, vomiting and exhaustion of the stomach having been diagnosed as gall-stone trouble, gastric crises, etc. But he was soon speedily cured by treatment directed to resting and soothing the stomach, bed rest for 4 to 8 days, with moist heat to the stomach, no food beyond

a small cup of milk every three hours from 7 a. m. to 7 p. m. for 3 to 5 days, then avoiding meat, bread and all indigestible food for two weeks, interposing one "milk day" every 4 days. These measures are supplemented every 2 hours during the first week by a dessertspoonful of a mixture of 5 parts bismuth and 15 parts acacia in 150 parts distilled water. This patient was also given 3 gm. of sodium bromid a day to act more directly still on the hyperesthesia of the gastric mucosa. The affection in the second patient had been differentiated as stenosis of the pylorus with ulcer and he had been kept for five years on an exclusive milk diet, but without relief. During the last 18 months spasm of the cardia had still further complicated the case, and the patient was unable to eat any solid food without severe pain, which continued until the food had been vomited. Radioscopy revealed spasmodic contraction of the cardia and pylorus and aerophagia, but no stenosis. Treatment as outlined above cured the patient in a few days and the cure has been complete for over 2 years to date in both cases. The tendency to aerophagia was also treated at the same time. The third patient was being treated for stenosis of the pylorus, vomiting and pain after eating, and he was placed behind the screen for a radioscopic examination but for some reason the apparatus did not work. The patient however did not know this, but he was absolutely cured by the supposed radioscopy; there has been no recurrence of symptoms for over 10 months to date. These patients were all men, the first two were about 50 years old, and the cases are cited to sustain the assumption that gastric spasm and contracture may occur without an organic lesion; in all the symptomatology had been grave, of long standing and rebellious to treatment by experts, but yielded to suggestion or to simple sedative treatment. An organic lesion is incompatible with the rapid and permanent cure while radioscopy has confirmed the actual chorea of the stomach. Physicians familiar with this syndrome of chorea of the stomach, they remark, will not let their patients be operated on for supposed stenosis or cancer, which the syndrome may most deceptively simulate. The trouble can be cured without; when a cure has been realized in such cases by operative intervention, the benefit is the result of the rest enforced by the operation, the dietetic restrictions and the fact that a moral, accidental or surgical traumatism may usefully modify a neurosis. The trouble in these cases is evidently a motor and sensory neurosis of the stomach. A single instantaneous skiagram might give very misleading findings, but if the stomach is patiently examined with the screen its motor restlessness will soon reveal itself and explain the puzzling shadows.

Semaine Médicale, Paris

July 6, XXX, No. 27, pp. 313-324

58 *Complications of Rubeola. C. D. Martelli.

58. **Complications of Rubeola.**—Martelli observed pneumonia in the course of rubeola, evidently a complication of the latter, in 3 cases in a recent epidemic in Italy. In one case the pneumonia ran a protracted course and vigorous tonic medication was required afterward before the child was well again. In 6 other cases he noted slight albuminuria and tube-casts in the course of the rubeola. In another case there was slight hematuria for ten days after defervescence, with a slight tendency to albuminuria but nothing else to suggest possible nephritis. Hematuria was encountered in only 1 of his 46 cases of rubeola, but he refers to Banbace's report of an epidemic of rubeola in which hematuria was the rule.

Archiv für Gynaekologie, Berlin

XCI, No. 1, pp. 1-242. Last indexed June 4, p. 1909

59 *Tubal Sterilization of Women. (Ueber die tubare Sterilisation der Frau.) H. Offergeld.
60 Th... in Parturients. (Eiweisskörper ...n und Wöchnerinnen.) B. H.
61 ...ntrauterine Disappearance of the ... bei intrauterinem Eischwund.) ... Koebner.
62 The Behavior of the Diastatic and Antitryptic Ferments in Pregnancy. (Verhalten des diastatischen und antitryptischen Ferments in der Schwangerschaft.) H. Schirokauer.
63 Ovarian Endothelioma. (Zum Studium der Eierstocksendotheliome.) P. Liagbue.
64 *Oliguria and Chronic Uremia with Uterine Carcinoma. H. Offergeld.
65 Experimental Transplantation of Ovary Tissue. S. Higuchi.

59. **Tubal Sterilization.**—Offergeld discusses the indications, technic and medicolegal aspect of tubal sterilization and the results of his own experience. It has sometimes happened that women suffered from prolonged uterine hemorrhage coming on some time after the operation on the tubes. There is no hemorrhage at the time, but about four days later there is what seems to be an ordinary menstrual hemorrhage, only it lasts for a week or more. He thinks that the removal of the tubes has some unexplained influence on the endometrium; this is evidenced particularly by success of ergot in arresting the hemorrhage and preventing any excess at the following menses.

64. **Oliguria and Chronic Uremia in Cancer Patients.**—Offergeld presents evidence which sustains the assumption that cancer patients suffer from chronic uremia more than is generally recognized, the products of the cancer injuring the kidneys indirectly or the cancer compressing them or their outlets. He then describes in detail 4 cases in which he tried to remedy matters by administration of beef kidney extract or in substance but with constantly negative result or possibly an aggravation of symptoms. He adds in a footnote that the results were also negative in a case of pregnancy eclampsia with advanced interstitial nephritis. The organotherapy gave no relief when applied as a last resort, the patient dying 20 hours after the onset of the first symptoms, promptly followed by induction of abortion. The evils of chronic uremia with inoperable cancer possibly may be palliated, he adds, by nephrostomy, ureterostomy or ureterocystoneostomosis. Or it may be possible to supply the lacking internal functional products of the kidney by extract from healthy human kidneys. The attempts to date to accomplish this with organotherapy with products derived from animals of another species have not given promising results.

Archiv für klinische Chirurgie, Berlin

XCII, No. 2, pp. 265-595

66 *Experimental and Critical Study of Ligation of Mesentery with and without Plastic Use of the Omentum. (Mesenterialunterbindung mit und ohne Netzplastik.) H. v. Haberer.
67 Advantages of Early Operation in Appendicitis. (Wodurch setzen wir die Mortalität der Appendicitis herab und verhüten Abscesse und Peritonitiden.) H. Kümmell.
68 Excellent Outcome of Osteotomy of the Os Calcis for Flat-Foot in 37 Cases. (Erfolge der Operation des Plattfusses nach der Methode von Gleich-Brenner.) H. Riedl.
69 *Results of Histologic and Chemical Research in 160 Cases of Exophthalmic Goiter. (Untersuchungen von 160 Basedowfällen.) A. Kocher.
70 *Treatment of Pseudarthrosis and Extensive Gaps in the Long Bones. (Behandlung der Pseudarthrosen und der ausgedehnten diaphysären Continuitätstrennungen.) A. Codivilla.
71 *Operations on the Spleen in Malaria. (Ueber Operation an der Malariamilz.) S. Solieri.
72 *Operative Treatment in 20 Cases of Traumatic Epilepsy. O. Tilmann.
73 *Physiologically Correct Abdominal Incisions. (Kritische Betrachtungen über Bauchdeckennaht und Bauchschnitt.) O. Sprengel.

66. **Ligation of Mesentery.**—The extensive experimental research reported by v. Haberer shows that the terminals of the mesenteric arteries have such a different arrangement in man and dogs that conclusions drawn from the latter cannot be applied to man. The dog mesentery does not bear ligation well, and the disturbances in the circulation almost inevitably entail trouble.

69. **The Chemical and Histologic Changes in the Thyroid in Exophthalmic Goiter.**—Kocher concludes from examination of 160 patients with exophthalmic goiter that the hypersecretion of the thyroid, or rather the hyperresorption, as he prefers to say, is dependent on the chemico-histologic behavior of the gland before clinical manifestations develop. A diffuse colloidal degeneration may exist without the knowledge of either patient or physician. He states that more iodin is absorbed from the Basedow gland than under other conditions, while this surplus iodin is not eliminated from the system at once as in health.

70. **Treatment of Pseudarthrosis and Defects in the Long Bones.**—Codivilla has applied osteoplastic treatment in 27 cases and gives radiographs of the ultimate outcome to show the advantages of his technic. The transplanted strip of bone was generally taken from some other bone in the same patient, and was fastened with two wires at each end. He aims further to promote the activity of bone regenerating processes

by the use of pedunculated flaps of bone-forming tissue, or at least taking similar living flaps from some other person. The two main factors for the healing are stability of the flaps in their new bed and ample supply of periosteum.

71. **Splenectomy in Malaria.**—Solieri reports four cases in which the enlarged malarial spleen required removal on account of subcutaneous rupture, sevenfold torsion or displacement. The patients were a man of 57 and three women between 22 and 34. The hemorrhage in the man was so severe that he succumbed; 4½ hours had elapsed before operative treatment, during which time the man had walked nearly a mile, showing that the hemorrhage in a ruptured spleen must occur slowly enough to give surgical measures a chance if the delay is not too long. Solieri advises against splenectomy for the malarial spleen unless it induces serious disturbances and the upper pole is below or only a little above the costal arch.

72. **Surgical Treatment of Traumatic Epilepsy.**—Tilmann reports 20 cases with a complete cure in 60 per cent. and improvement in an additional 5 per cent., while 2 patients were still under treatment and one had died. The interval since the operation had been from 6 months to over 3 years. He reviews 260 similar cases from the literature, stating the technic and the outcome. A cure or improvement was realized in all but 15.3 per cent. with the exception of 6.1 per cent. with a fatal termination, but he adds that 29 per cent. of the total were under observation for less than 6 months. He draws the important lesson from his experience that operative treatment is always indicated when there is a "depression fracture" of the skull or when any signs indicate a lesion of the skull or brain. In scarcely any of the total cases of traumatic epilepsy had there been any primary trephining, while on the other hand, Beresowsky has reported that epilepsy developed in only 1 out of 13 cases of severe injury of the skull in which operative treatment was instituted at once. An abscess developed in this one case but all the other patients remained healthy, although there must have been extensive adhesions. He experimented on dogs and found that adhesions invariably develop in such a case but scarcely ever any nervous symptoms if trephining had been done. Tilmann's patients were between 20 and 41 years except 4 youths between 13 and 17.

73. **Physiologically Correct Abdominal Incision.**—Sprengel relates the reasons which have compelled him to abandon the transverse incision in favor of the longitudinal and to refrain from auxiliary sutures as superfluous with this technic. Several colored plates accompany the article.

Beiträge zur klinischen Chirurgie, Tübingen

May, LXVIII, No. 1, pp. 1-378

74 Frequency of Hernia in Cicatrix from Appendicitis Operations. (Häufigkeit der Narbenhernien nach Appendicitisoperationen, besonders nach den mit primärer Naht behandelten Abscessen.) M. v. Brunn.
75 Acute Osteomyelitis of the Ribs. H. Fritz.
76 Mechanical Basis of Ileocecal Invagination. K. Blauel.
77 Branchiogenic Enchondroma. H. Kolaczek.
78 *Actinomycosis of the Orbit. P. Müller.
79 Radiography of Fracture of the Top of the Skull. (Der Gewölbebruch des Schädels.) E. Schwartz.
80 *Roentgen-Ray Diagnosis of Surgical Gastric Lesions. (Die röntgenologische Diagnostik chirurgischer Magenkrankheiten.) E. Finckh.
81 *Rupture from Taxis of Incarcerated Intestine in Hernia. (Die Taxisrupturen des eingeklemmten Bruchdarmes.) F. Sänger.
82 Appendicitis in Hernial Sac. (Appendicitis im Bruchsack.) F. Barsickow.
83 *Amputations During Childhood and Their Consequences for the Growth of Bone Later. (Die Amputationen im Kindesalter und ihre Folgen für das Knochenwachstum.) A. Reich.

78. **Actinomycosis of the Orbit.**—In the case described there was considerable proliferation of the inflamed bone, forcing the eyeball forward but the disturbances subsided after the focus was excised by turning back the malar bone to obtain ample access to the lesion. Müller has found 9 similar cases on record, which he summarizes. His patient had probably become infected through carious teeth, as there were actinomycotic processes in and under the temporal muscle. Eight of the 9 patients on record succumbed to meningitis or other intracranial affection and the ninth to typhoid, all within one year of the first symptoms of the orbital lesion and Müller's patient did not survive the operation more than a few months as there was early recurrence.

80. **Roentgen-Ray Diagnosis of Malignant Stomach Disease.**—Finckh states that 150 patients with suspicious stomach affections have been examined with the Roentgen rays at the Tübingen university clinic in the last two years and that in every case in which the lack of hydrochloric acid and other symptoms suggested cancer, although no tumor could be palpated, the skiagrams revealed its existence and the operation confirmed the positive findings. But in every such case the lesion was found too far advanced for successful removal. The 5 patients in this group were between 29 and 63. In another case a tumor could be palpated and yet the gastric secretions seemed to be normal, the Roentgen findings were positive, and the cancer was successfully removed while it proved inoperable in a second similar case. In the 90 cases of certain cancer there was free hydrochloric acid in 7, lacking in 78; lactic acid in 46, lacking in 38. The combination of lacking hydrochloric acid plus present lactic acid was encountered in 45 cases; both were absent in 32. Several plates accompany the article.

81. **Rupture of the Bowel from Taxis of Incarcerated Hernia.**—Sänger gives the details of 5 such cases encountered in 165 cases of incarcerated hernia in the last 3½ years at the Tübingen university clinic. The patients were women between 44 and 70 and the hernia was of long standing in all; the taxis was done by a physician in 2 of the cases. The rupture was followed by peritonitis in all the cases, to which 3 of the patients succumbed, while the others were saved by resection of 7 to 130 cm. of the gut. Sänger then gives summaries of 35 similar cases he has found in the literature; all the patients were over 30. It is probable, he adds, that many such cases of taxis rupture occur without the knowledge of any medical man, the primary cause of the resulting peritonitis not having been ascertained. The larger proportion were femoral hernias, and generally of long standing and in most cases the hernia had been frequently previously reduced without trouble. The rupture occurred in one case only 1 hour after the onset of the incarceration, while in another case the intestine could be easily sutured without reenforcement, although the incarceration was of 12 hours' standing. He is convinced that rupture may occur from taxis even with a sound bowel. In the total 40 cases the taxis had been applied by a physician in 14 cases, and in 6 cases special mention is made of the reduction having occurred very easily and promptly under cautious maneuvers. Ten of the 22 patients operated on were saved, but only 10 of the total 40, the mortality thus being 75 per cent.

83. **Consequences for the Later Growth After Amputations in Childhood.**—Reich reviews 45 cases from the literature, 20 from the Tübingen clinic, and also 18 cases in which coxa valga developed after amputation of the leg. Study of this material shows that much can be done in the way of prophylaxis to prevent the almost inevitable slanting contraction of the pelvis which results from the unequal bearing of the weight on the sound leg. The bone of the stump continues its growth in children while the muscles atrophy. The result is a tapering stump, and this physiologic tapering should be prevented, he declares, at the time of the amputation, by providing for ample attachment of the muscles to the stump of the bone, thus permitting the muscles to develop normally, parallel with the bone. The technic for such an arrangement is still to be worked out, he adds, as also means to prevent the development of coxa valga and oblique contraction of the pelvis after amputation of the leg in children supplied with an artificial limb. The growth of the pelvis is comparatively uninfluenced when the child uses a crutch exclusively. The article is illustrated.

Berliner klinische Wochenschrift

June 20, XLVII, No. 25, pp. 1165-1212

84 *"Albumin Milk" in Infant Feeding. (Ernährung magendarmkranker Kinder mit Eiweissmilch.) H. Finkelstein and L. F. Meyer.
85 Experimental Syphilis in Rabbits and Monkeys. (Zur experimentellen Kaninchen- und Affensyphilis.) P. Uhlenhuth and P. Mulzer.

86 *Suction Drainage of the Pleural Cavity. (Saugdrainage der Pleurahöhle.) F. Härtel.
87 Hernia of the Diaphragm. (Hernia diaphragmatica dextra.) H. Dietlen and G. Knierim.
88 *Unilateral Congestion of Lymph with Lung and Pleura Lesions. (Ueber halbseitige Lymphstauung bei Erkrankungen der Lunge bzw. Pleura.) M. Bönniger.
89 Sphygmograph. R. du Bois-Reymond.
90 Ether-Acetone Antiformin Method of Sputum Examination. Koslow.

84. See abstract 107 in The Journal, July 2, 1910, page 93, and editorial, July 30, page 407.

86. **Suction Drainage of the Pleural Cavity.**—In this communication from the university clinic at Berlin in charge of Bier, Härtel describes a simple portable contrivance which permits continuous aspiration of pus and other fluid from the pleural cavity while the patient is up and about. A square of dentist's rubber dam, through the center of which a catheter is passed into the pleural cavity, fits air-tight against the skin, while a rubber tube connects the catheter with a glass vial with two necks, the second neck connected with a rubber bulb. The vial is made flat and curved to fit against the body and is worn in a cloth pocket suspended from the opposite shoulder while a second similar pocket on the other side holds the rubber bulb. He reports several cases of empyema in which this little portable contrivance aided materially in the cure. The method can be applied to any fistula opening into a suppurating cavity.

88. **Unilateral Impairment of Circulation of Lymph with Disease in the Lung and Pleura.**—Bönniger has been studying for four years a symptom which he thinks is of extreme importance for the early diagnosis of affections of the lungs. This is a change in the tissues on the corresponding side so that they look plump, the change manifesting itself in the muscles, in the connective tissue and skin. It is not edema; the diseased side merely looks plumper and healthier. He explains it as the result of a congestion of lymph resulting from the pleural affection; there is no inflammation, redness or pain. With extensive processes the stasis may extend through the whole side of the body, as he shows by some examples of the extreme type in women with cancer or actinomycosis of the lung. The congestion never amounts to actual edema and the sound side is entirely free from it. In one of the illustrations given a child is shown with the buttocks and side plumper on the side of a pneumonia process some time before. In another the gluteal region is much emaciated, while the side corresponding to a tuberculous lesion in the lung with pleurisy is plump and rounded. A very important point is that this unilateral plumpness may first become apparent or may assume striking proportions immediately after a subcutaneous tuberculin test. He has observed this local reaction in a number of cases after the tuberculin test with doses too small to induce a general reaction. He further says that Pottenger's sign of muscle rigidity is probably due to this cause and not to contraction of the muscles from irritation of the sympathetic, as Pottenger explains it. Inflammatory processes in the pleura seem to entail this stasis of lymph in its most pronounced form, but its great diagnostic value is with apical disease, although its absence does not exclude lesions in the lung and pleura. It is characteristic more for the pleura than the lung, although its sudden development after injection of tuberculin has specific differential value.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

June 18, XIII, No. 10, pp. 369-400

91 *Operative Treatment of Gastric Crises in Tabes. A. Götzl.

91. **Operative Treatment of Gastric Crises in Tabes.**—Götzl reviews the experiences to date in this line, having applied operative treatment to one of his own patients with gratifying results, as has already been mentioned in these columns. Mingazzini first suggested intradural resection of the sacrolumbar roots for the lancinating abdominal pains in tabes, but Foerster first rendered it feasible for gastric crises, and Küttner applied it in practice. The latter has now operated in four cases of gastric crises. Bruns and Sauerbruch in another, one recently reported by Enderlen and Götzl's case bring the total to 7 to date. The question now is as to the best time for operative interference and whether it is not better to resect enough roots to ensure against recurrence of both gastric and abdominal pains. The pathologic-anatomic basis for the operation is the assumption that the gastric crisis is a periodical syndrome of phenomena showing irritation of a hypersusceptible gastric mucosa, the phenomena involving the sensory, motor and secretory functions of the stomach at once as a rule. Besides these phenomena there is generally a zone of hyperesthesia of the skin in the zone corresponding to the segment innervated by the seventh to the ninth dorsal roots, inclusive; this hyperesthesia is permanent or observed only during the attacks, and the cutaneous reflexes in the epigastrium are generally exaggerated. According to Head, the sympathetic fibers for the gastric mucosa run in these same seventh to ninth spinal roots. Any pathologic irritation of these roots might therefore theoretically induce all the phenomena observed, and severing the six roots in question does seem to put an end to the gastric crises *in toto*.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 20, XL, No. 18, pp. 569-600

92 Freud's Conception of "Sexual Neuroses." (Zur "Psychoanalyse" nach Freud.) P. Maag.
93 Etiology and Treatment of Post-Partum Hemorrhage. A. Labhardt. Commenced in No. 17.

Deutsche medizinische Wochenschrift, Berlin

June 30, XXXVI, No. 26, pp. 1209-1256

94 *New Drugs. (Ueber neuere und neueste Arzneimittel.) J. Biberfeld.
95 *Ehrlich's "Substance 606." (Ueber das neue Ehrlichsche Mittel.) A. Neisser.
96 *Serodiagnosis of Syphilis by Noguchi Technic. J. G. Sleeswijk.
97 *Modification of Serotherapy to Prevent Anaphylaxis. (Anallergische Sera.) A. Ascoli.
98 Vaccination A [illegible] nsversuche bei Typhus
99 *Constitutional [illegible] Anemia. (Welche Ro [illegible] nt in der Pathogenese der [illegible] Schauman.
100 Advantages of Intra [illegible] F. Mendel.
101 Causes of Rigidity o [illegible] der Bauchdeckenspannung.) A. Hoffmann.
102 *Electrolytic Cure of Recurring Cancer in the Rear of the Pharynx. (Ueber eine wichtige Verwendungsmöglichkeit der Elektrolyse in den oberen Luftwegen im Anschluss an einem geheilten Fall von Epithelialkarzinom der Basis cranii.) R. Kafemann.
103 Medical Missionaries in the German Colonies. (Stellung und Tätigkeit der Missionsärzte in unseren Kolonien.) K. Axenfeld.

94. **New Drugs.**—Biberfeld reviews the pharmaceutical harvest of the last few years, saying that not much grain is left after separating it from the chaff.

95. **Ehrlich's "Substance 606."**—A summary of Neisser's article was given in the Berlin Letter on page 326, July 23.

96. **Serumdiagnosis of Syphilis According to Noguchi.**—Sleeswijk found that the Noguchi paralleled the Wassermann findings in cases of certain syphilis, but that non-specific changes were liable to occur with the Noguchi technic in febrile and in other not explained conditions, such as are not observed with the original Wassermann technic and which detract from the reliability of the Noguchi method.

97. **Antianaphylactic Serum.**—Ascoli comments on the clinical experience that anaphylaxis does not occur when the succeeding serum injection is made with serum from a different species of animal from that used in the first series of injections. After considerable research he was able to produce diphtheria antitoxin from sheep serum, and thinks that this will solve the problem of warding off anaphylaxis. The sheep antitoxin may be reserved for the succeeding injections for patients who display the slightest signs of intolerance at the first injection. The sheep serum does not prevent ordinary serum sickness, but it serves to obviate the symptoms resulting from the hypersusceptibility of the individual. Consequently he proposes to call the serum used for this purpose anallergic serum, adopting von Pirquet's term, "allergy," to express this hypersensitization of the system. He mentions in passing that the most serious cases of anaphylaxis were observed by von Pirquet after the use of heated serums, and he also cites Francioni's statement that the development of anaphylaxis seems to be followed by the loss of the passive immunity conferred by the serotherapy.

99. **Family Tendency to Bothriocephalus Anemia.**—Schaumann writes from Helsingfors to call attention to the occurrence of bothriocephalus anemia in several members of a family as he has encountered it in 8 families. In 7 other cases bothriocephalus anemia was followed later by the development of a progressive and fatal anemia some time after a successful course of treatment to dislodge the parasite.

102. **Successful Electric Treatment of Recurring Cancer in the Throat.**—Kafemann reports a case of epithelial carcinoma in the nasopharynx of a policeman about 38 years old. The cancer was removed with apparent success but three months later there was a stormy recurrence with numerous metastases in adjoining glands on both sides of the neck. After curetting the growth, it was given electrolytic treatment and rapidly retrogressed under 13 exposures; there has been no trace of recurrence during the 2 years since. He applied a current of about 22 milliamperes for 10 or 15 minutes at a time, the sittings at intervals in the course of 6 months. A suspicious bunch was curetted away twice during the course of electrolytic treatment and the glands in the neck were operated on a month before the last exposure.

Fortschritte der Medizin, Leipsic

June 23, XXVIII, No. 25, pp. 771-800

104 Treatment of Uterine Carcinoma. F. Fromme.
105 Action of Baths on the Size of the Heart. (Einwirkung von Bädern auf die Herzgrösse.) R. Schmincke.

Medizinische Klinik, Berlin

July 3, VI, No. 27, pp. 1043-1082

106 *Progress in Pathology and Bedside Diagnosis of Heart Disease. (Fortschritte der Pathologie und Diagnostik der Herzkrankheiten und ihre praktische Verwertung am Krankenbette.) N. v. Jagic.
107 *Importance of the Thyroid for the Growth of the Skeleton. [illegible] Hyperthyreose.) J. Holmgren.
108 [illegible] Appendicitis. (Darmblutung bei [illegible]
109 [illegible] binprobe.) H. Gunther.
110 [illegible] ons of the Wassermann Reaction. (Ergebnisse der Porgesschen Luesreaktion 131 Fällen.) L. Merian. (Erfahrungen über die Dungersche Methode der Syphilisreaktion in der Sprechstunde.) Schultz-Zehden.
111 Readily Improvised Incandescent Electric Light Baths. Baumann.
112 Indications for and Advantages of Institutional Treatment of Heart Disease. (Anstaltsbehandlung bei Herzkranken.) Konried.
113 Behavior of Pathologic Sera in Respect to *Saponin Hemolysis.* A. Herz and K. Landsteiner.
114 Relations Between the Viscosity of the Blood and the *Organic* Functions. (Beziehungen der Viskosität des Blutes zu den Körperfunktionen.) H. Determann.

106. **Progress in Bedside Diagnosis of Heart Disease.**—Jagic discusses what has been learned in recent years from inspection, palpation, percussion and auscultation findings as controlled by radioscopy, graphic registration of pulse and blood pressure, plethysmography, the electrocardiogram, etc. None of these new methods can take the place of the older physical means of examination but they have served a most useful purpose in giving us more confidence in the percussion and auscultation findings and enabling us to interpret them more accurately, as he reviews in detail.

107. **The Growth of the Skeleton with Hyperfunctioning of the Thyroid.**—Holmgren states that when exophthalmic goiter or a tendency thereto develops about puberty, the young people thus affected grow unusually tall as a rule, but when the exophthalmic goiter develops after maturity, the individuals are not above the average height. His study is based on 127 cases of goiter, and 2,500 measurements of children of various ages to establish average standards. He has also found on record 89 cases of exophthalmic goiter in children under 15; in 25 of the 37 cases in which the size of the children was mentioned it is stated that they were unusually tall, and in 6 rather tall. His research has further demonstrated that the ossification of the epiphyses occurs earlier in tall children than in the short. Nature seems to wish to give the latter a chance to catch up with the others. All his material seems to suggest that extra functioning on the part of the thyroid gland entails greater growth of the skeleton. Negative evidence is also afforded by the defective growth with hypofunctioning of the gland. He mentions in passing that the thyroid is the only vital organ, with the exception of the skin, which lies superficially without being protected by a bony covering. With increasing age the thyroid gradually sinks lower until in middle age it is protected behind the manubrium. A number of the "growing" symptoms observed at puberty may be traced to hyperfunctioning on the part of the thyroid, he adds, and there is much to suggest that when the latter occurs the children mature earlier, both physically and mentally. It is possible, he suggests, that a casual infection may stimulate the thyroid to greater functioning and thus indirectly promote the growth of the skeleton.

Monatsschrift für Kinderheilkunde, Berlin

May, IX, No. 2, pp. 65-130

115 *Influence of the Nursing Mother's Diet on the Growth and Development of Her Infant. (Einfluss der Nahrungsart der Mutter auf Wachstum und Entwicklung des Säuglings.) A. N. Schkarin.
116 *Influence of the Nursing Woman's Diet on Lactation. (Einfluss der Ernährung der Stillenden auf die Laktation.) A. Keller.
117 *Some Fundamental Conceptions of "Physical Chemistry." (Wandlung unserer Anschauungen über die Bedeutung der anorganischen Salze.) H. Koppe.
118 Fifteenth Critical Review of Recent Literature on the Biology, *Chemistry, etc., of Milk and the Production of Milk.* (Milchwissenschaft und Mölkereipraxis.) R. W. Raudnitz.

115-116. **Influence of Diet of Nursing Mother on Development of the Infant.**—Schkarin's research was conducted on rabbits but the results confirm what is constantly observed in practice, namely, that the mother seems to be able to supply her nursling with all that it needs for its normal development, regardless of the kind and amount of food she is herself taking. Keller has been studying the subject from the standpoint of the lactation. A nursing mother, wife of a physician, wishing to retain her figure unmodified by lactation, subsisted on an antiobesity diet, a strict "Banting course," for two months with much exercise. The amount of milk constantly averaged from 350 to 450 gm. a day. The child seemed to thrive on this although it did not increase quite normally in weight until the mother's milk was supplemented by another's. The mother weighed 70 kg. at the birth of the child and 67 by the end of two months. The child weighed 2,700 gm. at birth, 5,770 at six months and 7,200 at 12, and has always been healthy except for a slight tendency to rachitis.

117. **Infant Feeding from Standpoint of Osmosis.**—Koppe hails as a great advance the recent attempts made to estimate the effect on the osmosis of the mineral salts in infant feeding. Certain experiments have already shown that the organism reacts differently to various food mixtures containing exactly the same mineral elements and in the same amount but of different constitution. He insists that the ash content and the salts content of the food are by no means identical. See 84 above.

Münchener medizinische Wochenschrift

June 28, LVII, No. 26, pp. 1377-1424

119 *Treatment of Placenta Prævia. M. Hofmeier.
120 *Pathology of the Suprarenals. (Zur Pathologie der Nebennieren.) R. Rössle.
121 The Functional Capacity of the Human Mammary Gland. (Leistungsfähigkeit der menschlichen Brustdrüse.) M. Thiemich.
122 *Value of the "Thread Reaction" in Typhoid. (Welchen Wert hat die [illegible] Abdominaltyphus, [illegible] die Diffe[illegible] W. [illegible] Kamm.
123 *Rapid [illegible] Technic for Spirochetes. (Eine neue [illegible]) R. Kalb.
124 Alkali[illegible] Determining Organic Oxidizing and Red[illegible] Loele.
125 *Technic for Continent Artificial Sphincter. (Operation des Krebses der Analportion mit künstlicher Sphinkterbildung.) E. Welcke.
126 Treatment of Ankylosis of the Shoulder. (Zur Behandlung der Schultergelenksversteifung.) A. E. Stein.
127 The Wassermann Reaction and the General Practitioner. H. Noguchi.
128 W. F. v. Hilden, M.D., 1560-1634. (Guilielmus Fabricius Hildanus.) C. Sudhoff.

119. **Treatment of Placenta Prævia.**—Hofmeier reviews 100 cases of placenta prævia from his own experience; the mortality was 8 per cent. but in only 3 per cent. of the fatal cases could the method of treatment possibly be incriminated in the outcome. The general results show, he declares, that there is no reason for forsaking the old reliable methods of combined version and the use of the inflatable bag, and he urges that medical students should be trained in these and other methods as it will be many years yet before institutional care is possible for all deliveries.

120. **Pathology of the Suprarenals.**—Rössle remarks that a growing respect for small organs is one of the signs of modern pathology, and an autopsy now has no claims for completeness unless the tonsils, thymus, pancreas, suprarenals, thyroid and parathyroids and the hypophysis are examined. The suprarenals are proving to be indispensable organs; this is not so clear with Addison's disease, on account of its gradual development, as with the hemorrhagic destruction of the suprarenals in the newly born. He reports a case of the latter, one of the few in which the correct diagnosis was made during life. He also cites some cases of hyperplasia and hypertrophy of the suprarenals with the resulting syndromes, and a case in which aberrant suprarenal cells were found in the pararenal tissue; some were calcified and one had evidently been the source of fatal hemorrhage in the bed of the kidney. He has found at autopsies 39 cases in which the suprarenal medulla was moderately hypertrophied and 15 with excessive hypertrophy. All these cases had the common feature of repeated large or continuous small hemorrhages, and in other cases there seemed to be a special tendency to dropsy, chronic diarrhea and frequent vomiting—all of which may have aided in inducing the hypertrophy of the suprarenals, as he explains in detail. The drop in blood pressure following much loss of blood is probably compensated for by extra production of the active principle of the suprarenal gland. This suggests that it might be well to supply the organism with the active principle of the suprarenal gland from without in case of repeated large or continuous small hemorrhages. This assumption is sustained by the remarkably small amount of suprarenal medulla which he found in cases of a permanently overfilled vascular system, in which the tension of the vessels was maintained by their content alone, and thus the suprarenal functioning was rendered comparatively superfluous. Experimental research is needed in both lines, first to see how animals stand hemorrhage after removal of the suprarenals on one side or both; secondly, to see whether the blood contains more of the active principle of the suprarenal gland after venesection and whether the suprarenal medulla becomes hypertrophied after repeated withdrawal of small amounts of blood.

122. **"Thread Reaction" as Differential Sign of Typhoid.**—This rapid method for differentiation of typhoid was described in THE JOURNAL, March 5, 1910, page 929. The experiences related in this article seem to confirm its value, especially for detection of healthy bacillus carriers. Only the completely positive reaction has specific value, and this complete reaction generally accompanies high agglutinating properties, although the tendency to thread production briefly precedes agglutination as a rule.

123. **Improved Stain for Spirochetes.**—Kalb describes a staining method which, he states, takes less than a minute, the stains are cheap and the technic simple. In 49 cases he determined the presence of spirochetes by this method when the Wassermann reaction was occasionally negative. The technic is commended especially to the general practitioner for its simplicity and convenience. The stain is a combination of 0.5 parts of eosin B.A.; 50 parts alcohol and 30 parts triacid stain (methyl green, acid fuchsin and orange). The stain thus contains four dyes; the mixture should be clear. He prefers oozing serum for the test; obtained as a papule is rubbed a little or an erosion curetted. The specimen is fixed and a few drops of the stain are poured on it and the whole heated over a flame; then rinsed with water and a large amount of a 10 per cent. solution of commercial acetic acid poured over it carefully two or three times from the edge. The specimen then looks pink, the spirochetes and bacteria do not take the stain but show up white against the pink background unless the staining has been done too intensely, in which case it is better to commence over again. The spirochetes show up better in the edges of the preparation.

125. **Artificial Sphincter Formation.**—Welcke reports success with an artificial sphincter formed by crossing a bunch of fibers from the gluteus muscle on each side of the fistula after resection of a rectal cancer. The stump of the rectum was drawn out for more than an inch and was sutured to the skin where it emerged. In the case described the patient soon learned to contract the gluteal muscle at the approach of feces so that continence is secured; the crossed fibers were able to exert the needed pressure on the base of the protruding stump of the bowel. The article is illustrated.

Wiener klinische Wochenschrift, Vienna

June 30, XXIII, No. 26, pp. 963-990

129 *Pathogenesis of Pellagra. H. Raubitschek.
130 *Pathogenesis of Psoriasis. B. Lipschütz.
131 *Ozonization of Milk. (Ozonieren von Milch.) E. Wiener.
132 Operative Treatment the Only Effectual Means of Curing Cancer. (Ueber die Versuche, das Karzinom auf nichtoperativen Wege zu heilen.) E. Venus.

129. **Cause of Pellagra.**—Raubitschek has been applying the biologic, anaphylactic, serologic, deviation of complement and other tests to determine the actual bases of the various theories in regard to the origin of pellagra. His extensive experimental work was done at the institute for pathology and bacteriology at Czernowitz. The constantly negative results show, he thinks, that none of the theories at present in vogue is correct. He then reports further research which seems to show that pellagra and beriberi are the result of the action of some toxin in corn and rice which does not display any toxic action unless it is sensitized by the chemical rays of the sunlight. Laboratory animals fed with corn or rice kept well so long as they were not exposed to direct sunlight, but under the influence of sunlight developed emaciation and paralytic phenomena, dying in from 8 to 21 days. He found that animals taken away from the sunlight, soon after the onset of symptoms, rapidly recovered without change of diet. The anatomic and bacteriologic findings in the animals were constantly negative. He was led to this conception of the origin of pellagra as the action of an alimentary poison plus sunlight by the experiences with white animals fed on buckwheat. Kept in the dark they remained healthy, while when exposed to the sunlight the hair dropped out and the animals became emaciated and soon died with symptoms of paralysis. This syndrome was not observed with the dark-colored animals or with those kept out of the sunshine. The similarity between this "fagopyrism" and pellagra is more striking on account of the facts that the pellagra symptoms develop in summer with special intensity, that the skin manifestations are almost exclusively restricted to the parts exposed to the sunlight, that corn has more fat than any other grain, and that the active body in buckwheat is soluble in alcohol. He explains pellagra consequently as due to a toxin which develops in the parts of the skin exposed to the sunlight from the action of the chemical rays on the lipoid, alcohol-soluble element in corn. The toxin developing in the skin causes the superficial lesions and has also injurious systemic action. He cites some analyses of wheat, rice and corn showing the proportions as follows:

	Water.	Dry Substance.	Protein.	Fat.
Wheat	13.6	86.4	12	1
Rice	10	89.5	11.7	2.3
Corn	10.2	90	15.2	3.8

131. **Ozone Sterilization of Milk.**—Wiener presents an apparatus which he states sterilizes milk completely from pathogenic germs and toxins without altering it in any way or impairing its protecting substances, while the milk can be kept much longer. The milk in the form of a very fine spray, is submitted to the action of the ozone, while the ozone is then driven off by immediate aeration. The lactic acid bacilli resist the sterilizing process more than cholera germs, typhoid, colon and tubercle bacilli. The process has to be different from the technic for ozone sterilization of water as it is important to refrain from destroying the organic substances in the milk.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVI, No. 2, pp. 215-513. Last indexed May 28, p. 1833

133 Rapidity of Dissemination of Germs in Puerperal Endometritis. (Schnelligkeit der Keimverbreitung bei der puerperal-septischen Endometritis.) O. Pankow.
134 *Scopolamin in General Anesthesia. (Scopolaminnarkosen.) R. Ruckert.
135 *Experiences with Instrumental Dilatation of the Uterine Cervix and Vaginal Cesarean Section. (Die Erfahrungen bei der Collumerweiterung nach der Bossischen Methode und beim vaginalen Kaiserschnitt für die Jahre 1905-1910.) Weischer.

154. See abstract 62 in The Journal, July 30, 1910, page 442.

Hygiea, Stockholm

June, LXXII, No. 6, pp. 593-704

155 Historical Sketch of Early Medical Education in Sweden. (Några ord om den medicinska undervisningen vid universiteten i Uppsala och Lund under 16- och 1700-talet.) E. Welander.

156 *Further Experience with the Two-Route Method of Treating Tuberculosis and Lupus. (Ytterligare fall af tuberkulos och lupus i de öfre luftvägarna, behandlade med NaJ + O_3, [illegible] för metodens tillämpning och praktiska [illegible] A. Pfannenstill.

157 Idiosyncrasy to Milk in Children. (Till frågan om orsakerna till komjölkens mindervärdighet som uppfödningsmedel åt späda barn.) W. Wernstedt.

158 Atherosclerosis in Youth of 17 with Pulmonary Tuberculosis and Chronic Nephritis. M. Simon.

159 Case of Mesenteric Cyst. (Cystis chylosa mesenterii ilei.) K. Belfrage.

160 Case of Fatal Heat Stroke. (Om ett fall af s. k. värmeslag med dödlig utgång.) V. Asklin.

156. See abstract of previous communication in The Journal, July 16, 1910, page 264.

Nordiskt Medicinskt Arkiv, Stockholm

XLII, Internal Medicine, Nos. 3-4. Last indexed Feb. 19, p. 633

161 Case of Syndrome Probably Resulting from Lesion in the Petrous Portion of the Temporal Bone Extending from the Geniculum of the Facial Nerve into the Carotid Canal. (Syndrom von Spasmus, Parese und Neuralgia facialis, mit Hemiatrophia, *okulären und anderartigen sympatischen* Symptomen verbunden.) G. Söderbergh.

162 *Primary Liver Cancer. (Genese des Leberkrebses.) S. A. Pfannenstill and E. Sjövall.

163 Trigeminal Tumor with Cerebellopontine-Angle Symptoms. (Fall von Trigeminustumor mit Symptomen vom Kleinhirnbrückenwinkel, *nebst einigen Bemerkungen über die sogenannte cerebellare Ataxie.*) [illegible]

164 Experimental Adaptation of a [illegible] to the Subcutaneous Lymph Glands in [illegible] [illegible]er.

165 Case of Internal Rupture o[illegible] [illegible] Fall innerer Magenruptur.) J. Tillgren.

XLII, Surgical Section, No. 3. Last indexed April 2, p. 1179

166 *Fulguration in 32 Cases of Cancer. (Ueber die im Seraphimerlazarett bisher gewonnenen klinischen Erfahrungen in Bezug auf die Keating-Hart'sche Behandlung maligner Tumoren oder die sog. [illegible] J. Berg.

167 *Tuberculosis of the [illegible] in Children and Its Relation to Coxitis [illegible] des Collum femoris im Kindesalter und ihre Beziehungen zur Hüftgelenkentzündung.) H. Waldenström.

162. **Liver Cancer.**—*In the first case described a factory girl of 16 presented the typical syndrome of Banti's disease including great enlargement of the spleen, anemia, cirrhosis of the liver, jaundice, ascites and hemorrhages. The disease commenced with a sudden onset with pains in the epigastrium. Autopsy three years later revealed an unsuspected primary cancer in the liver. In another case the primary cancer in the liver occurred in a girl of 14 with symptoms for only a few months. There was also in this case chronic hyperplasia of the spleen and general anemia with slight ascites, but no traces of cirrhosis in the liver. The third patient was a man of 49, and the liver cancer was *accompanied* by brownish discoloration of most of the viscera. The three cases described indicate that irritation of the parenchyma is an important factor in the origin of cancer as also of cirrhosis of the liver.

166. **Fulguration in Cancer.**—Berg found that an incomplete operation supplemented by fulguration by the Keating-Hart method was followed by local healing and general improvement in certain cases while in others it seemed to promote the malignant growth. He would restrict fulguration to cases in which the operation is necessarily *incomplete, and then* apply it only after energetic Roentgen- or radium treatment. His conclusions are based on 32 cases, which are described in detail.

167. **Tuberculosis of the Neck of the Femur.**—Waldenström found a focus in the neck of the femur in 21 of his 80 cases of tuberculous hip joint disease, and advocates excision of the focus in the early cases. If the lesion is isolated the patient is sound again the moment the trochanter has healed. If there is concomitant synovitis, this is left to heal under conservative measures, which may require a long time but finally result in a well functioning hip joint. He gives an illustrated description of his technic for prophylactic extracapsular excision of *the focus.* The trochanter and a small piece of the shaft are sawed off and the flap turned back, permitting access to the focus in the neck. A disk of rubber tissue larger than the wound with a hollow metal cylinder fitted in the middle, made with a screw-thread outside, is then fitted into the focus in the bone, and through this cylinder the focus is curetted and cleansed, the rubber pressed firm against the sawed surface of the bone, and thus preventing all contact with infectious matter. The focus is then filled with iodoformed glycerin, *the trochanter* replaced and sutured. The tuberculin test is very important for the early diagnosis of the lesion, and especially *for differentiation* between the synovial and bone forms of the affection. If the child ceases to limp after a week or two, although it is still up and about, the trouble is probably not tuberculous. If the limping continues for two or three weeks, a Roentgen-ray examination should be made. Limping, atrophy of the muscle and spontaneous intermittent pain in the upper, inner part of the knee or hip joint with a localized *pain on deep pressure anywhere on the* bone, speak strongly in favor of an isolated focus in the bone, but if there is pain on pressure anywhere over the capsule and interference with the movability of the hip joint, synovitis should be suspected. If there is only local pain at a certain point in the bone but not over the entire capsule and without impairment of the movements of the joint, *synovitis can be excluded.* In conclusion Waldenström mentions that he induced teachers of the public schools to watch for limping among the pupils and obtained records of *296 limping children among 20,000* school children. He was able to examine personally 258. A focus in the neck of the femur was found in only 2, tuberculous *coxitis in 15, septic coxitis in 2, congenital dislocation of the* hip joint in 13, spinal paralysis in 23 and Little's disease in 5. He ascribes the small number of cases of an isolated focus in the neck of the femur to the fact that the children were all older than the age at which this lesion generally develops, that is, under 5. The teachers, however, had their eyes opened to the importance of *proper treatment of limping among their* scholars, so that now they promptly send to the physician those that are found to be limping.

Books Received

All books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. A selection will be made for review in the interests of our readers and as space permits.

A Text-Book on the Therapeutic Action of Light. Including the Rho Rays, Solar and Violet Rays, Electric Arc Light, The Light Cabinet. By *Corydon E. Rogers,* M.D. Cloth. Price, $3.50. Pp. 323, with illustrations. New York: C. E. Rogers, 382 Second Avenue, (1910).

T[illegible] Case-Book. For [illegible] and Preserving Clin[illegible] and Arrange[illegible] aff of the [illegible] nal. Cloth. [illegible] with 80 [illegible] Louis: Inters[illegible] Co., 1910.

Fourth Annual Report of the American Oncologic Hospital for the Study and Treatment of Cancer and Other Tumors. Forty-fifth and Chestnut Streets, Philadelphia, Pa. For the Year Ending Dec. 31, 1908. Paper. Pp. 45, with illustrations. 1909.

Twenty-first *Annual Report of the* Director of the Psychiatric Institute, 1908-1909. To the State Commission in Lunacy, State of New York [Adolf Meyer, Director, *Pathological Institute,* Ward's Island, New York]. Paper. Pp. 131. 1910.

Twenty-fifth Annual Report of the State Board of Health of the State of Rhode Island. For the Year Ending Dec. 31, 1902. Including the Report on the Registration of Births, Marriages and Deaths in 1901. *Cloth. Pp.* 332. 1910.

La Greffe Ovarienne: Historique: Résultats Cliniques et Thérapeutiques. Par le Docteur Ivan Scheurer. Paper. Price, 4.50 francs. Pp. 182, with 9 illustrations. Paris: G. Steinheil, 2, rue Casimir-Delavigne, 1910.

Dyspepsia: Its Varieties and Treatment. By W. Soltau Fenwick, M.D., *Doctor of* Medicine of the University of Strassburg. Cloth. Price, $3 net. Pp. 485, with illustrations. Philadelphia: W. B. Saunders Co., 1910.

[illegible] Winke für die chlorarme Ernährung. Von Dr. H. [illegible] Arzt der inneren Abteilung des Jüdischen [illegible] lin. Paper. Price, 1 mark. Pp. 47. Berlin: [illegible]

Report of the Seventy-ninth Meeting of the British Association for the Advancement of Science. Winnipeg, Aug. 25-Sept. 1, 1909. Cloth. Pp. 933. London: John Murray, Albemarle Street, 1910.

Handbuch der Biochemie des Menschen und der Tiere. Von Dr. Carl Oppenheimer in Berlin. Installment 25. Paper. Price, 5 marks. Pp. 2[illegible]0. *Jena: Gustav Fischer,* 1910.

Annual Report of the Brockton Hospital Company. *For the* Year 1909. Fourteenth Year. Paper. Pp. 69.